SUPERBOOTS

BUSINESS PLAN

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EXECUTIVE SUMMARY

SuperBoots, the software development laboratory of the Capital Children's Museum, is seeking $750,000 equity financing to become a publisher and marketer in the rapidly growing home computer software industry. The firm will develop products that expand the creative, graphic, and educational frontiers of microcomputers.

SuperBoots has an impressive record of success. Its first product, PAINT, has been called the "most ambitious graphics and drawing package developed for Atari home computers" by Creative Computing magazine. This program can be used by six year olds after just 10 minutes of instruction. PAINT has won every major software award in the United States, and has received outstanding reviews in many computer publications. The product has been liscenced to Atari, which expects to sell 50,000 units, worth $2,000,000 at retail. Future products will be targeted at children ages 5-16 but can be enjoyed by adults.

Computers are now in three million American homes. By 1987, it is projected that more than 30 million households -- one in four--will own one. That year consumer software purchases will approach $4 billion. Education is the fastest growing software category and a prime motive for a family's computer purchase. SuperBoots has the opportunity to leverage its early software development success and reputation into a strong market presence.

SuperBoots' management team is headed by Ann White Lewin, founder of the Capital Children's Museum, and a noted educator. In five years she has built the Museum into an internationally recognized "hands-on" educational facility for children and created FUTURE CENTER, a leading public access computer environment.

SuperBoots's Vice President of Software Development is well known in the microcomputer industry as an innovator in interactive game design and creator of top selling games. He presently has a senior position with a computer manufacturer. The company's Vice President of Marketing has directed educational sales for a major computer manufacturer, and held software marketing responsibilties for another. He has worked closely with software distributers and retailers.

SuperBoots' success will result from its ability to attract outstanding software design talent, command the attention of distributors and retailers, and develop software that consumers will purchase.

THE COMPANY

SuperBoots was founded as the software development laboratory of the Capital Children's Museum in 1981. The lab was created to meet the software needs of COMMUNICATION, a major permanent exhibit then under construction. The Museum assembled a team with unique computer graphics, music and education skills to produce ten software packages for public use in the new exhibit.

With the completion of COMMUNICATION, SuperBoots turned its attention to developing PAINT, a powerful, yet easy to use graphic design program for the Atari 800 computer. PAINT was developed for Reston Publishing Company, a Prentice Hall subsidiary. In 1983, the product was liscenced to Atari for exclusive worldwide distribution.

To expand and offer a wider variety of products, SuperBoots will become a for profit corporation, privately held and managed, affiliated with but separate from the Museum. SuperBoots will have its own management and Board of Directors, but will use the museum's educational facilities. The museum will retain an equity position in the new company.

Capital Children's Museum

The Capital Childrens Museum, founded in 1977, is a major cultural and educational institution in Washington D.C. Its 4-acre campus is located near Union Station, and houses numerous hands-on exhibits. The 300,000 visitors who come to the Museum each year learn by doing. They crawl through a subteranian

maze of pipes and manholes in the City Room, make tortias or explore rural traditions in Mexico, and operate pullys, levers, and a larger-than-life balance scale in Simple Machines.

COMMUNICATION, opened in 1982, is the museum's largest and most ambitious exhibit. Its 10,000 square feet of activities includes a functioning satellite communications facility, 35-channel 2-way cable television system, as well as a recreated ice age cave and early printing presses.

FUTURE CENTER, a classroom with 35 Atari 800 systems, attracts both children and adults to computer classes. Some of the youngest students to use FUTURE CENTER are the 4-6 year old compu-tots. The facility also offers instruction to adults: in 1982 the FUTURE CENTER staff presented a hands on computer seminar for Members of the United States Congress, at the request of the Congressional Clearinghouse on the Future.

THE PRODUCT

Product Description

Imagine software which is as exciting as an arcade game, yet as thought-provoking as a novel. Programs that are packed with the unlimited creative potential of crayons, finger painting or tinker toys. Activities that give a child the power to make a movie, simulate the economy of a nation, or experiment with physics, all on a computer screen. These are the capabilities of software which will become the main-stay of home computing in the 1980's.

Only a handfull of firms possess the creative potential, technological prowess and marketing know-how to exploit opportunities in this field. SuperBoots, the software development arm of the Capital Children's Museum, is a new company organized to develop educational software for use in the home. Its products are distinghished by their ability to absorb the child by providing challenging activities.

Its products:

- Utilize the color graphics and sound capabilities of small computers which so enthrall youngsters.
- Allow children to create in an open-ended environment, in which they can explore their own creativity and learn by doing.
- Are accompanies by documentation which is as appealing as the computer activity itself.

SuperBoots software embodies the same educational goals as the Capital Children's Museum, the nation's leading hands-

on museum. Kids learn by doing and by exploring realistic environments. By taking seriously a child's intellectual curiosity and creating games which allow a child to expand his horizons, a child will be captivated and enthralled while learning. And parents will have found software which adds tremendous value to their computer investment.

Paint

SuperBoots' first product is PAINT, developed for Reston Publishing Company in 1982. PAINT has won every major software prize awarded in the United States and has been licensed by Atari to become a nationally distributed product for Atari home computers. The program turns the home computer into an electronic canvas whose capabilities no ordinary canvas could ever achieve. The user can paint in 256 colors and more than 1,000 patterns, all of which can be chosen and mixed on an electronic palet. More than 100 different brush strokes are available, as are commands which paint rectangles, circles, or fill in any shape the child has created. After an image has been painted, colors can be instantly changed, brush strokes erased and patterns altered. PAINT has been hailed by Atari as the single program which best takes advantage of the Atari computer's color and graphics capabilities.

Packaging

PAINT's packaging is unique by personal computer standards.

The product comes in a colorful box, 8 x 10 x 1/2 inches. An important innovation is the 200 page softcover book which accompanies the product. In addition to instructions on how to use the program, the book contains chapters and color plates on the history of computers, the history of art, and the story of computer art and artists. It suggests many activities for children and parents.

This packaging represents a significant advance in software marketing, and is indicative of SuperBoots' consumer market orientation. Some software publishers still distribute program disks in plastic bags with a few pages of typed, photocopied instructions. Such packaging does little to inspire consumer purchases. With PAINT, even parents who know nothing about computers can evaluate the product and see that it is a creative and substantial activity.

Including a book adds value to PAINT. By introducing the consumer to developments in computer graphics, by relating electronic imaging to artistic traditions, and by challenging the user to create his own designs, PAINT becomes a robust learning activity.

Product Reviews

PAINT has been exceptionally well received by the computer industry and software community. It received outstanding reviews in 12 computer publications including Creative Computing, Popular Computing, Soft Side, Byte, and Electronic Learning.

Soft Side called PAINT:

> A popular new medium of fluid, creative expression... PAINT is to painting what word processing is to writing...I'd give PAINT a five star rating. In fact if you're seriously inclined to explore the world of computer imaging, this software package might make it worth your while to invest in an Atari.

Creative Computing, the first and one of the most widely read popular computing magazines wrote a no-holes barred endoresement of PAINT. Their April, 1983 review began,

> PAINT is the most ambitious joy stick based drawing system available for the Atari computer. It has capabilities that outstrip systems that cost 5 times as much. It allows even the absolute beginner to experiment with most of the graphics potential the Atari brings to microcomputing. And it is so simple, even a child can use it. In fact, it was designed with children in mind. I cannot think of a better inducement to kids than a program such as this...
>
> Obviously intended to be an educational package, PAINT manages to convey fully the flavorful, imagination-spurring mood fostered at the Children's Museum. As a program design to involved children it is a masterpiece. (Exhibit 1, Product Reviews)

Because word of mouth is so important to computer software sales, reviews such as these are invaluable. Press attention enhances SuperBoots' stature with distributors and retailers, and helps insure that its future products will be covered by the press.

Future Products

SuperBoots' future products will include music, animation, and simulation activities. The company's software offerings will only be limited by the imagination of the management team and the programmers.

Two products are now under development and being tested

at the Museum: Hidden Pictures and Music. Hidden Pictures, a pattern recogntion activity has become a popular attraction at the Museum. Hidden Pictures will contain several game variations in which users must find patterns and shapes which are presented briefly, or for which only a small amount of information is given. The product will be accompanied by a book on perception and optical illusions, which will contain many visual activities that can be experimented with using the program.

Music will be an easy to use composition tool in which children can explore the creation of music and sound. Music is being developed by a team including a programmer with computer game and electronic music experience, and a noted music educator. Experts from the field of computer music have also assisted SuperBoots on this project. As with other SuperBoots products, Music will include a book which will introduce concepts in music, computer generated sound, and composition.

Future products can not be fully developed until SuperBoots is capitalized. Projects under consideration include:

- Build-It Children design and modify three-dimensional structures. Build-It will be designed with the assistance of R. Buckminster Fuller, one of the 20th century's great design innovators and a friend of the Capital Children's Museum. Build-It is a child's introduction to architecture; an electronic answer to Tinker Toys®.

- Animation Machine will be developed as a natural extension to PAINT. Whereas PAINT allows users to design an intricate still image, the animation package will create movies. Users will create picture elements using PAINT and then direct action with the animation machine.

- SuperBoots Big Book of Communications In 1982 the Capital Children's Museum opened a major, permanent wing on the history of communications. The exhibit has been called a guided tour of the information age, from cave art to satellites and computers. Many microcomputer programs were created for COMMUNICATION, and all have become favorites with Museum visitors. They include Morse Code, in which visitors can type messages in English and see them translated into code, or tap a message in code and read its English meaning; and Orbit, where children launch a communications satellite into geosynchronous orbit and then align earth stations to send messages.

  The communications project consists of several programs which allow a child to explore the history of communications, together with a book on the subject.

These represent several product concepts SuperBoots management is now considering.

MARKET ANALYSIS

The Consumer

Families purchase home computers because they are excited by their educational value, entertainment capabilities, and financial management potential. Surveys done by two market research organizations, Frost and Sullivan and Future Computing indicate that families cite education as frequently as entertainment as a reason they purchase home computers. Consumer interest in home computers is so great, and price competition among hardware manufacturers so intense that the decision to purchase a computer is often inspired because it is "the appliance of the '80s." However, soon after purchasing computers, consumers are frequently dissappointed. Their initial excitement for the new technology gives way to the realization that without appropriate software, the computer can do nothing.

While entertainment is the favored reason for purchasing a computer, families soon want more. After all, the consumer purchased a computer rather than a game unit precisely because he wanted to do more than just play games. Video games are technicolor pinball, electronic candy. Consumers are looking for more satisfying, robust activities for their computer.

This dynamic leads to millions of frustrated households looking for software to justify their computer purchase, and to increase the utility of their machines. Software manufacturers whose products are innovative, easy to use and useful can gain rapid acceptance in this environment. They are truly solving

what would otherwise be a very disappointing situation for consumers.

When considering the educational applications of computers, families think: I want my child to have the educational advantages. I want him to be computer literate. To become enthralled in constructive computer activities in which he can explore his mind. But at present there is virtually no software that satisfies this demand. What is available under the rubric of educational software? There are drill and practice programs which even the naive computer user realizes are nothing more than electronic flash cards. There are computer assisted instruction (CAI) programs that provide detailed instruction in specific subjects. But, CAI has been around ever since computers were first used in education in the 1960's and it is often derided as merely an electronic page-turner. CAI renders electronic many of the things children don't like about school: it is highly structured, only seeks the right answer, and tells the student exactly what to do. The home computer user who is already accustomed to the action and excitement of the arcade game demands something more sophisticated and more interesting than this mundane approach to education.

The generation of software which SuperBoots represents realizes the creative potential of computers in education. That is why market researchers like Future Computer term educational games/creative utilities the fastest growing category of software.

While this argues well for the educational software industry, it was necessary for SuperBoots management to determine whether computer consumers were enthusiastic about its products.

Consumer Survey

Interviews were conducted with parents and children who had an opportunity to use PAINT while visiting the Capital Children's Museum. The following questions were asked:

1) If your family owned a personal computer, would you want to purchase PAINT, and why?
2) What do you like about the PAINT program?
3) What do you not like about it?
4) What do you think a child gets out of this product?

Of twelve children who were observed using the program, eleven indicated they would like to own a copy of the program. However, some of these children did not own a computer and others did not own an Atari. One child told us, "It gives you a feeling you can actually put your own things in the computer and store them. You can draw instead of having the computer draw. You can make patterns instead of having the computer choose." Only one child who used PAINT said that while he liked it, he would not want to own the program.

Five parents observed their children using PAINT and all liked the product. They thought PAINT was a more worthwhile activity than computer games, and they were pleased that children accepted the product. Significantly, some parents who liked

PAINT did not identify it as an educational program. SuperBoots management believes that some of the most important activities which contribute to a child's development, from finger-painting to tinker toys, are often perceived as fun but not educational. This may be one of the strongest endorsements a learning activity can have. Most of the children and adults who used PAINT said it was more creative than computer games. Users of computer games seem to be saying that many entertainment programs are reactive--the computer does something and you have to react to it. After a while, this becomes boring. Programs like PAINT, Adventure Games, and related educational games allow a child to create and direct the computer.

Parents told us they are looking for computer activities they can use with their children. Too often when a computer is purchased for educational prrposes a child drifts off into ZAXON land, or becomes enamored of bytes and RAM leaving their parents behind. Parents like PAINT because it is more of a family activity than other computer fare. More often than not parents purchase software, and they will appreciate an educational or creative activity which enfranchises several members of a family.

In summary, this survey told us that while consumers wanted PAINT, many were not able to purchase it because they did not own the right kind of computer. We conclude there is a market for PAINT, and similar creative software. However, for these products to reach the largest potential audience

they must be developed for many home computers. (See Exhibit 3, "Finding Home Computer Uses," New York Times, May 11, 1983).

The Market

While several manufacturers, market research firms and investment banks, track sales trends of small computers and software, the industry is growing so rapidly that it is difficult to find precise data. Nevertheless, sufficient information exists about the sales of personal computers and software packages to allow the creation of upper and lower limit projection on the size of the consumer software business and its components.

Hardware Sales

Consumers' expenditures on home computers are increasing at a compound growth rate of 100-150% according to recent anaysis by Goldman Sachs and Future Computing. The installed base of home computers in 1982 was 2 million units. Projections for 1985 range from 15 to 24 million units. Most of these are in the $1,000 range. (Exhibit 4, Installed Base, by year). The share of market by various manufacturers has changed substantially over the past several years and will continue to do so until at least 1985. Exhibit 5b presents the home computer installed base by manufacturer in 1982.

Software Purchase Behavior

Consumer software purchases are a direct function of the hardware installed base, e.g. the cumulative sale of all home

computers still in use. Research by Atari, Spinnaker, and Future Computing indicate that consumers purchase approximately nine software packages the year they acquire their computer. The first year's software purchase, on average, includes: systems software, a productivity package (often word processing), a home business program, 2-3 education programs and 3-4 entertainment games. In subsequent years, families on average buy 4-5 programs, almost all of them in the entertainment or education category. These purchases increase with the value of the computer system, and with a family's use of its computer. These estimates are largely based on research by Future Computing. Warner Communication, Atari's parent, estimates that personal computer owners are willing to buy 7-15 software packages a year, even after the year of purchase, if they find programs to their liking. The implication is that software sales are below their potential because consumers are still dissatisfied with what is available.

Software Market Projections

Projections for home computer software sales, and for sales within the entertainment and education category are derived from the hardware projection and Future Computing's software purchase estimates presented above. These sales projections are summarized in exhibits 4 and 6.

By 1987 home computer software expenditures will be nearly $4 billion. Of this, $1 billion will be spent in the education

category, and $2.3 billion on entertainment. SuperBoots software transcends both traditional notions of game software and education software. As families look for creative applications of computing in the 1980's, the educational game/creative utility niche will grow rapidly, and account for an increasing share of the education and entertainment software sales dollar. This category now accounts for no more than 5% of the combined total of the education an entertainment markets; by 1987 it will account for nearly 20%.

Market Fragmentation

The market for microcomputer programs is dependent on the type of machine the program is developed for. At present, five manufacturers dominate this market. Exhibit 5b presents a 1982 breakdown by manufacturers of the home computer market. These data indicate that it is wise for publishers of computer software to introduce products for several machines at once in order to amortize their investment and promotional expense over a wider installed base.

All home computer manufacturers sell two basic kinds of machines. Those which accept programs as a cartridge, and those which accept programs as a disk (Exhibit 5a, Installed base by Machine Type). While disk based computers are more versatile, the cartridge machines are significantly less expensive. By 1985, the installed base of personal ocmputers will include 23 million cartridge computers and only 5 million disk based

units. The implication is that while more sophisticated programs can be developed for the disk based computers, most consumer own cartridge machines, and thus this is an important market to develop for.

Competitive Analysis

While major publishers, computer manufacturers, and video games companies are all exploring how to enter the educational computer software market, the category is now dominated by the hardware manufacturers, and a handful of small educational software publishers. Education remains the least entrenched of all software categories. Barriers to entry in this segment are less formidable than they are for productivity or systems software, and there is significant potential for properly capitalized new firms to do extremely well. (Exhibit 7).

The major players in educational software in 1982 are detailed in Exhibit 8. The field is dominated by hardware manufacturers, who, because of their name recognition and marketing abilities have realized significant market share. Manufacturer dominance of this category is also a function of the few quality educational software products in the market place, and a lack of strong competition from educational software publishers. While manufacturers have strong marketing capabilities they only distribute software for their own machines. Independent software producers have the opportunity to sell products for

the entire installed base of home computers. To date, Radio Shack, Atari and Commodore have largely offered computer assisted instruction packages rather than educational games and creative utilities.

As software publishers become consumer marketers in their own right, they can be expected to dominate the consumer education category. This parallels trends in the business software market where Visicorp and Micropro International have come to dominate the productivity applications software field, and Digital Research and Microsoft dominate systems software. This same trend can also be observed in the video game cartidge business where Imagic and ActiVision now produce games for all manufacturers consoles and have become effective consumer marketers.

Of the 14 independent educational software publishers shown in Exhibit 8, only 2 can be considered strong competition capable of garnering significant market share in the 1980s. Edu-ware realized an eight fold revenue jump from $250,000 for fiscal 1981 to a projected $2 million for the year ending 1983. The firm offers 35 products compared to the 15 it sold a year-and-a- half ago, and is just beginning to offer educational games. Edu-ware's product line is dominated by traditional computer assisted instruction offerings such as programs which aid students in algebra, language, and simple mathematics. While their growth is impressive, Edu-ware has done little to foster brand name recognition, and its advertising and marketing

prowess is still unsophisticated. This leaves Edu-ware vulnerable to software publishers with greater marketing clout.

Spinnaker Software is the prototype consumer software company, and the firm to watch. It was formed with $800,000 venture capital in April 1982, and received $1.2 million for expansion in January 1983. At the same time, the firm turned down an additional $1.2 million. Spinnaker's software line included 8 program at the end of 1982 and the firm expects to introduce more than 20 products by the end of 1983. These programs are educational games which allow children to create and illustrate stories, design faces, and draw. Additional products will branch into adult education, simulation, home management, and strategy. Spinnaker expected to receive initial orders of 8,000 units for each of its first 8 products, but actual orders exceeded 30,000 units for each product. Sales of these products now exceed 50,000 units each. Significantly, Spinnaker's present product line runs on disc equipped computers, limiting their market to the 29% of home computers with disks. When Spinnaker releases cartridge based programs, its sales should surge ahead even further.

Spinnaker's president and marketing director both have consumer product backgrounds, and the firm devotes 20% of its revenues to advertising. Spinnaker employs few programmers, but contracts software development to a community of authors with whom it works closely. SuperBoots management believes that Spinnaker is the most formidable consumer software competitor

now in business, but that the category is sufficiently large that Spinnaker's presence will serve to expand primary demand for educational games more than it will eclipse competitive opportunities.

Other competition in the educational software arena includes:

- Children's Computer Workshop, a division of Children's Television Workshop, the producers of Sesame Street. CCW is developing software for the Apple and the Atari, and its first products will be available in mid-1983. CCW's strongest asset is its identification with Sesame Street and the various characteristics of that television show.

- The Learning Company, a tiny organization in Palo Alto, California. TLC developed some superior products but did not budget significant resources towards advertising, promotion, or distribution. As such, it is typical of many small software ventures which experience slow growth and poor sales because they have not used the often expensive tools of consumer marketing. After a year-and-a-half of developing software, TLC is just beginning to develop strong relationships with distributors and advertisers and now expects to realize greater sales.

Book publishers are also looking at the educational software market. For the most part, major publishers have been concerned with the school market as that is a logical extension of their text book business. SuperBoots is not primarily interested in the school market, as school products tend to be targeted at extremely small market segments such as third grade math or second grade language skills. Marketing to schools is a fundamentally different task than selling to consumers, as schools have formal evaluation processes and complicated purchasing procedures.

SuperBoots is positioned to become an important actor in

the consumer software market. Because of its association with the Capital Children's Museum, SuperBoots has attracted some outstanding software design talent. Its first product, PAINT, is a testimony to this prowess. The Museum itself houses one of the nation's largest computer education centers, which serves as a laboratory for the development and testing of new software. The Museum is very much in touch with the child and his computer interest. While there are literally hundreds of companies developing software for personal computers, the survivors in the business will be able to meet the challenge of consumer marketing, and establish brand identification. SuperBoots' management realizes that the key to success in consumer software is broad product distribution and stimulating consumer awareness.

Sales Projections

SuperBoots management expects first year sales of each product to average 43,500 units. Thereafter, per product sales will grow at 15% annually. The annual per product rate of growth is less than growth associated with the installed base of home computers, because as SuperBoots grows its products will compete with one another and with the growing number of other products on the market. This should not be construed as the firm's growth rate, as SuperBoots will rapidly increase its product line, and realize a much larger compound revenue growth.

Management expects each product to have a life cycle of one year, with 30% of sales in the first quarter of introduction, 40% in the second, 20% in the third, and 10% in the fourth quarter. Actual sales will vary seasonally, but software sales are less seasonal than other retail items, including computer hardware.

SuperBoots' financial statements have been calculated using initial sales of 35,000, 43,500, and 50,000 units. The 43,500 unit (first year) sales figure is an expected value associated with several possible product sales states. While any one product might experience disappointing or outstanding performance, the overall product portfolio should approach this expected value, and eliminate some of the risk associated with very few products.

Sales State	Sales	Probability	Partial Product
Disappointing	10,000	10%	1000
Mediocre	25,000	20%	5000
Good	45,000	40%	18000
Very Good	60,000	20%	12,000
Solid Gold	75,000	10%	7,500
Expected Sales (units)			43,500

These sales estimates compare favorably with Spinnaker's experience, and Atari's projections for PAINT. Spinnaker is achieving product sales in excess of 50,000 units for all its offerings, yet its present products can only be used on the

30% of computers equipped with disks. This suggests that software in this niche can consistently sell in excess of 50,000 units. Likewise, Atari projects sales of 50,000 units for PAINT, uet Atari represents only one-third of the home computer market. Again, this suggests a high sales potential for educational game/creative utility products. Thus SuperBoots projection of 43,500 unit sales is a conservative one.

By 1987, SuperBoots sales of $45,000,000 for over 20 products will account for 1.7% of the educational game/creative utility category. This category is estimated as 20% of the combined total of education and entertainment software sales. By another measure of market share, SuperBoots sales would account for 5.5% all education sales that year, using Future Computing's sales projections.

MARKET ENTRY STRATEGY

An analysis of the consumer software industry reveals three important dynamics:

1) Distribution is all important. Most software retailers accept a distributor's product recommendations, and stock what a distributor ships. The software industry is engaged in a good old-fashioned Procter and Gamble consumer marketing battle for shelf space.

2) Advertising and promotion are becoming important. Advertising is vital to generating consumer awareness, and distributor interest in a product. Brand identification helps establish a software publisher.

3) This is an industry of talent. Like the movie or record business, the best software is produced by the most talented authors and artists. The firm which publishes the works of exceptional programmers will have the best products and market acceptance.

SuperBoots entry strategy is built on these three important factors.

Software Distribution

Software wholesalers and distributors have become the key to successful software distribution. The first and largest distributor, Softsel, is only two years old, yet it already handles a significant portion of the software market, reaching approximately 1,500 computer stores. A successful relationship with a distributor can mean the difference between a software product appearing in very few retail outlets or being stocked on the shelves of computer software and electronic stores nationwide.

Software distributors serve two important purposes. First, they select the software that retailers will stock. With more than 200 software publishers producing thousands of products, few retailers have the time or resources to evaluate new products. Software distributors, on the other hand, distinguish themselves by evaluating software and supporting only those products which they believe are high quality and have large sales potential. Distributors thus function as filtering mechanisms, receiving thousands of submissions and choosing the best.

The other major role of the distributor is access to computer stores. At present over 2,000 computer hardware and software firms retail micro-computer software. Distributors receive large batches of product from publishers and fill many small orders from retailers. A new software firm cannot afford to mount a grass-roots campaign to sell product to hundreds of local computer stores. While many firms used this approach a few years ago, when the industry was embryonic, this is now a fool hardy strategy. The 15% retail margin that distributors take as a fee is a necessary cost of doing business, and the extra sales volume which is achievable through access to more retailers more than compensates for this amount. Arrangements with distributors are typically non-exclusive, and SuperBoots intends to work with at least three major distributors including Softsel and Micro-D. A distributor must find significant advantages to a product in order to include it in inventory

and recommend it to retailers. Distributors look for top quality products, products that will fill a niche, products from reliable sources, and products that will sell.

Distribution of SuperBoots Products

The company's first product, PAINT will become an Atari distributed product in 1983. This represents a quantum improvement in product distribution over the methods used by Reston Publishing, the Prentice Hall subsidiary which handled PAINT until mid 1983. Atari estimates that under its aegis PAINT will sell at least 50,000 units, which translates into retail sales of $2 million dollars. Until 1983 PAINT was available only on disc and thus, was limited to a market of only 30,000 (estimated) Atari computers equipped with disc drives. Concomitant with Atari's introduction of the product in 1983, a ROM cartridge version of PAINT will be marketed. This increases the potential market for the product to 800,000 Atari computers, a 25-fold increase over the installed base of machines which can accept disc. If the PAINT program becomes a true hit with the Atari, its sales could exceed 100,000 units.

While this distribution arrangement portends outstanding sales for the PAINT product, it comes at great expense to SuperBoots. In carrying PAINT as one of its major software offerings, Atari insisted on exclusive rights to the product for two years. Thus, SuperBoots' flagship product is limited to the installed base of only one manufacturer's computers.

In return for advertising, marketing and distributing PAINT, Atari keeps most of the product's sales dollar. Atari will forge wide distribution and recognition for SuperBoots, but SuperBoots will only see a small fraction of the product's revenues.

In order for SuperBoots to thrive as a business, it must develop and manage a strong marketing organization. This is one of the greatest assets that a software publisher can have. It allows the company independence from the marketing departments of computer manufacturers, and establishes name recognition with the consumer. It also affords SuperBoots a much larger claim on sales dollars. These factors are vital to the growth of a software publisher.

SuperBoots next products will leverage off of the company's major strengths: the success of its initial product, the firms close relationship with major software distributors and with Atari, and its outstanding creative abilities. The distribution plan is to use major software distributors to reach computer stores, toy stores, and software stores, while the national accounts department will handle the largest retail accounts (Exhibit 9, Software Distribution).

Relationships with Distributors

SuperBoots is already well respected by the major software publishers and is well positioned to take advantage of this relationship. Because PAINT has received outstanding reviews

and several software awards, and because Atari has chosen to market PAINT as a major product, distributors find SuperBoots to be both innovative and capable of excellence. One of the most important developments for SuperBoots has been its acceptance by the software distribution community. Softsel's discussions with SuperBoots's management indicate the Softsel is now eager to distribute subsequent SuperBoots products. SuperBoots is in the enviable position of being called on by the distributors who are asking to carry its products.

National Sales Force

The national sales force will move SuperBoots products to major retailers, toy stores, and retail chains not served by software distributors. The national sales force will also call on the largest accounts served by distributors to further stimulate demand for SuperBoots' products. In these instances, distributors will continue to receive their commission. The national sales force's mission will be to insure that SuperBoots' products garner shelf space in major retail and toy outlets. Finally, the national sales force will represent SuperBoots at major consumer and industry trade shows.

As department stores, discounters, toy chains become forces in the sales of home computers, they will be a natural choice to service the software market. Retail stores seek top quality software which fills niches appropriate to their customer

base. They also seek software supported by advertising because this stimulates consumer demand and product awareness. SuperBoots is well positioned to succeed with retailer because buyers for these firms realize that their products are sold primarily to the home market which is seeking software for youngsters. SuperBoots' acceptance by Atari and affiliation with a respected educational institution, the Capital Children's Museum, known for its computer activities, will differentiate the firm from the many smaller software publishers now in the market. The presence of the National Sales force will also distinguish its products.

Trade shows have become an important marketing tool in the small computer industry. Industry trade shows allow dealers to become familiar with and ask about new products. As SuperBoots becomes known in this industry its presence at the COMDEX and Consumer Electronic Show will further enhance its image as a major contender in the software industry.

Computer fairs aimed at consumers have become a popular mechanism for families and computer hobbyists to learn about new products. Hit software depends on successful word of mouth reputation, and computer fairs are an important way to stimulate discussion about new products. The most aware and initiated consumers attend these shows along with those who are looking to make purchases. Thus, trade shows are important to the firm's early development. As SuperBoots becomes better

known, its product will be represented by retailers and distributors at consumer trade shows. The firm will then attend only the few most prestigious computer fairs.

Advertising

SuperBoots will use a two tiered advertising strategy. The entire product line as well as the SuperBoots brand identification will be advertised at an initial moderate level in compuer publications. The company expects to spend $350,000 in advertising in its first sales year. However, as hit program are identified, advertising will be increased significantly to a level of 15% of sales. In this way, the firm will manage its promotional expenditures conservatively but move to maximize the opportunity offered by hit programs when they emerge. Because these hit programs are sales leaders, this higher level of advertising will be funded out of sales revenues.

SuperBoots will initially advertise its product line in publicaitons that cater to novice and family computer users. These publications include Creative Computing, Popular Computing and other publications which are not machine specific. Additionally the firm will purchase space in publications which cater specifically to machines that SuperBoots software is written for. These include COMPUTE (6502 based machines) Applecider (Apple users), PC (IBM users). Advertisements will be purchased according to the efficiency with which they reach consumers who own machines

which run SuperBoots software. In addition to advertising to consumers, SuperBoots will advertise in publications targeted at the computer retailing and publishing trade.

Further Promotional Opportunities

As computer software becomes an accepted consumer purchase, SuperBoots will become a leader in marketing innovation. The firm will explore and develop marketing channels which are only beginning to become available to software distribution. The following are examples of distribution and promotional opportunities which management will explore.

- SuperBoots News Letter

  As consumers register their purchases through warranty registration cards, the firm will maintain a mailing list of software purchasers. Twice a year, the firm will send the SuperBoots news letter to its customers. The newsletter will feature articles about software authors, information on how products are being used ("PAINT Used by Artists in New York City Gallery", "Animation Machine Used by Students to Make a Movie..."), and new product information. The concept is to stimulate awareness of and loyalty to SuperBoots, reinforce its quality reputation, and present the company's successes. The newsletter will also be sent to SuperBoots retailers, selected educators, leaders of the computer industry, and investment bankers.

- Direct Mail Advertising

  In conjunction with credit card and catalog firms the SuperBoots will explore the prospect of direct mail sales of its software products or its products together with a computer hardware package to consumers. With more than 20 million personal computers in homes by 1985, and consumer software sales at the $2 billion dollar level by that year, the era for such mass marketing will have arrived. Management believes that by making an early aggressive statement with these channels the firm can help solidify its position as a leader in consumer software.

- Software for Breakfast

  SuperBoots will try to become the first software product to run a promotion in conjunction with a major breakfast cereal manufacturer. Advertisements on the back of children's cereals are seen by millions of youngsters and parents every year. This will focus consumer attention on the product in an environment away from the clutter of computer publications. It will also bring a quality educational image to a breakfast cereal promotion.

- Software at the Movies

  Management will seek to include SuperBoots software in motion pictures and television shows. Consumer products are regularly promoted in motion pictures. This technique is especially effecitve if a product is identified and woven into the plot of a production. If a piece of software helps a character reach a decision, resolve a problem, or create something, the software itself becomes desirable to the movie attending public. In negotiating an arrangement with a movie producer, SuperBoots can agree to develop at its cost software which is required for a movie. In return, SuperBoots will have exclusive rights to that software.

Pricing

SuperBoots products will be sold for an average price of $40. This reflects general trends in the consumer software industry and is the price of the PAINT product. The economics of software pricing is similar to that of books and records. Consumers purchase products which they are interested in so long as the items lie within the generally accepted price range. Computer software is not subject to the intense competition that is seen in the hardware market because software is not a major purchase and because it adds velue to an existing hardware

system.

SuperBoots will realize 45% of a product's retail price, for a gross margin of $18.00. Direct costs associated with each unit, including computer disk, soft cover book and packaging amount to $7.00. This leaves a healthy contribution margin of $11.00. Total product development costs of $84,000 will be recouped after sales of 7636 units.

OPERATIONAL PLAN

SuperBoots will be organized as a software publishing and marketing organization that will develop educational software and educational games. SuperBoots is fortunate that its first product has been well received and that the management team is well known in the microcomputer software community. The firm's first operational task will be to sign development agreements with talented software authors who will develop SuperBoots' future products. The firm's location at and relationship with the Capital Children's Museum will save operating expenses and reinforce SuperBoots' reputation.

Acquisition of Programs and Talent

SuperBoots director of software will be responsible for identifying and recruiting software authors and talented programmers who will develop programs for the company. Programmers will work for an agreed upon royalty and will usually be given an advance against royalty. The firm will maintain an in-house software unit that will work with authors, improve programs, and serve as a creative and technical locus of activity. In-house programmers will also coordinate the translation of software code to make it compatible with all machines that SuperBoots develops for.

The firms philosophy is that talented programmers, like artists, should be brought together for specific projects and given the latitude to create those projects. Programmers

should work on those projects which best exploit their talents. Thus a team of graphics designers and computer imaging specialists were assembled for PAINT, and a computer music specialist has been added for the development of the Museum's music program. SuperBoots will consist of a core of outstanding software developers, managers and technical programming talent. This core will locate and work with outside authors who will be hired on a project by project basis.

SuperBoots' ability to draw on outstanding programming talent for its development efforts is critical. Three factors influence the firms ability to do this: 1) having in-house software designers of sufficient caliber and reputation that programmers find SuperBoots a more appealing organization to work with than its competitors, 2) the firm must be sufficiently well known in the micro-computer community to find outstanding talent, and 3) the company must write contracts which are sufficiently competitive to attract programmers.

Mr. Allen Lewis has been chosen as Vice-President, Software Development because of his outstanding record in the computer games and software industry. He is well known by programmers and computer users, and has authored many articles on game design, as well as authoring many successful strategy/education games. His work is respected for its playability, strong graphics component, and reality. Mr. Lewis will function as SuperBoots' "Pied Piper" of programmers, attracting talent to the firm to take on selected projects.

Royalties

Programmers realize their creative talents are in large measure responsible for a software product's success. Because talented programmers are in demand they can command a renumeration package that includes a royalty based on product sales.

SuperBoots' management believes that it is preferable to contract with outside authors and pay an advance and royalty, rather than hire them as staff. Turnover is common in the software industry, and a constant burden on software firms. Rather than have a large, ever changing staff, the firm will be better off working on a contract basis with talented programmers who are part of the SuperBoots community. The firm is designed to flourish in this fluid environemnt, while providing programmers the freedom they desire.

Royalties are proportional to a programmers contribution in creating a program. Thus, if a programmer approaches the company with a project of his creation which excites management and is appropriate to the company's philosophy, he will receive an advance against royalty and will be responsible for the project development. Because the project was conceived and designed by the contractor he will receive a high royalty. SuperBoots staff will assist in writing and developing documentation, solving particular problems in coding the program such as screen design, animation, sound generation or other game ingredients. SuperBoots will also manage the project's time table.

Conversely, if a project is initiated by SuperBoots and designed substantially in-house, the programming team assembled to develop the product will be paid a smaller royalty. The SuperBoots family of programmers will grow as projects are completed and more individuals have had an opportunity to work with the firm. This pool of talent will comprise one of the firms greatest assets as the firm and the software industry grow.

Location at the Capital children's Museum

SuperBoots will initially be located in a wing of the Capital Children's Museum in Washington, D.C. One of the firms principal advantages will be its relationship with the Museum which allows it to take advantage of unique educational opportunities and operating economies.

The firm will rent its office and software development space from the Museum at a rate of $10.00 per square foot, far less than the market rate for office space in Washington, D.C. The Museum will provide additional space on demand to SuperBoots at the same rate, thus, as the firm expands, it will be able to add space easily and cheaply. While there will be some fixed costs associated with renovating and preparing this space for SuperBoots' use, the Museum's own non-union maintenance crews will be able to perform this work at a significant savings to the company.

The Capital Children's Museum operates FUTURE CENTER, one of the nation's leading educational computer laboratories and classrooms. SuperBoots will have access to this facility to observe children using its prototype products, and those of competitors. The Museum has a large education staff which creates a variety of learning activities throughout the museum. This staff will be available to assist in the conceptualization and design of software for SuperBoots. The intellectual environment provided by a major educational institution will thus be a major asset to the software company.

SuperBoots will have use of the Capital Children's Museum quarter million dollar PDP-11/70 computer systems for software development purposes. The firm will spend approximately one thousand dollars a month to rent time on this sytem. The 11/70 will provide access to cross-assemblers and cross-compilers which will be useful in translating programs from one micro-processor code to another. SuperBoots will also conduct all of its word processing and administrative computer activities on the PDP-11/70.

Capital Equipment and Facilities Improvement

Once capitalized SuperBoots will spend $100,000 on office equipment, development hardware and facilities improvements. These include the following:

Development Computer Systems	
2 Atari 1200's with floppy disks and printer 2 IBM personal computer systems with hard disk and printer 2 Apple 2E computer systems with floppy disks and printer 2 Commodore 64 computers with floppy disk and printer	$30,000
Development Software	
Utilities, cross-assemblers, and other development software for use on the PDP-11/70 computer and small computer systems	20,000
Office Renovation	
Painting, remodeling, carpeting, and furniture for SuperBoots offices	25,000
Office Equipment & Fixtures	
Typewriters, computer terminals, telephone system and water cooler	25,000
	100,000

Manufacturing Strategy

As SuperBoots develops software products and accompanying books, it will subcontract the printing and manufacturing of these items. Managment realizes that SuperBoots main business and expertise are in publishing and marketing software. Printing books and the mass reproduction of disks are easily contracted at competitive rates. Undertaking manufacturing of these products is not approprite for SuperBoots.

Schedules

Product introduction schedule

Exhibit 10 presents SuperBoots overall product introduction schedule for a four year planning horizon, by quarter. The firm plans to introduce 2 products the first year, 5 the second, 10 the third, and 20 in the fourth year.

The two programs scheduled for introduction the first year have already been developed, and each can be completed within six months. The rate at which SuperBoots introduces further products is related to its ability to attract programmers and design talent. Management believes that targeting 10 products for year three and 20 products for year four is a realistic assessment of the firm's ability to grow. Other software publishers, notably Spinnaker and Edu-ware have demonstrated an ability to introduce nearly 20 products within 2 years. Thus, SuperBoots may be able to accelerate its product introduction schedule.

Product development schedule

Exhibit 11 presents the project management schedule for a typical software product. The project is conceived by the VP - Software, the project manager, a designer, and the lead programmer. Once approved and underway, the project is headed by the project manager who devotes one-third of his time to the project. The nine month product development cycle typically requires:

4 months of a designer, 1 month of an educator, 9 months of a lead programmer, 7 months of an assistant programmer, and 2 programmers for four months each to translate code to other computers. In this example, the product requires three man years to complete, including management time. The development costs a total of $84,500, of which $72,000 is an advance against royalty or payment to contractors, and $12,000 is an allocation of management and staff time.

Project reviews are scheduled periodically, and are attended by the VP of Software, the project team, and software managers. When the project is near completion, the VP - Software designates a freeze date, after which product design is frozen, and all effort is devoted to completing and debugging the program. The author begins work on the book five months before project completion, and is assisted on research by the production manager.

Following product completion, it takes 1.5-2 months to print the book, manufacture disks and cartridges and another month until the products appears on retailer shelves. Advertising to retailers begins when the product is complete (month nine) and to consumers a month before products appear in stores (month 11).

Personnel schedule

Exhibit 12 presents the expected management and staff requirements for SuperBoots during its first 18 months. The

President, VP Marketing, Sales Manager, VP Software, one software manager and a secretary are hired when the firm is capitalized. The VP Finance, Chief Editor, and production manager are added six months later.

MANAGEMENT TEAM

Ann W. Lewin, Chief Executive Officer

Ann Lewin is an educator, and builder of organizations dedicated to educational excellence. She is founder and executive director of the Capital Children's Museum, and founder of two schools in the Washington D.C. area. She is responsible for taking the Children's Museum from the concept stage to its present stature as a major cultural institution with a $2 million annual budget, a four acre site in Washington, D.C., and an international following.

Ms. Lewin presided over the creation of FUTURE CENTER, the museum's computer education facility, and one of the nation's leading public access computer centers. She has lectured on computer education to audiences at the International Federation of Information Processing Societies in Japan, the National Computer Conference, and the Harvard School of Education. Ms. Lewin managed the formation of SuperBoots at the Capital Children's Museum and managed the development of PAINT.

Allen Lewis*, Vice President, Software Development

Mr. Lewis is widely respected as an innovator in computer game design, and is author of several popular computer strategy and simulation games. He is presently manager of interactive game development for a major computer manufacturer where he is responsible for both software research and development and the timely creation of software products. Prior to accepting his present position Mr. Lewis developed graphic software for both mini-computers and micro-computers. He was educated at MIT where he received a Masters Degree in Computer Science from the Visible Language Workshop. He is well known in the computer software industry and he has also developed a reputation among computer hobbyists because of the many articles he has authored on interactive game design.

Andrew Lourbach*, Vice President, Marketing

Mr. Lourbach has held marketing positions in the micro-computer industry since its inception. He is currently educational sales manager for Radio Shack and was previously responsible for software marketing at Apple computer. Mr. Lourbach spent four years in brand management for Procter & Gamble after receiving his M.B.A. from the Harvard Graduate School of Business. Mr. Lourbach has developed strong business contacts with major retailers of consumer electronics and distributors of computer products.

* The names of these individuals have been disguised to protect their present positions.

RISKS

The following are the major risks associated with the growth of SuperBoots software.

Consumer Fickleness: Consumer software products behave similarly to popular books and records: some are hits, some are not. It is difficult to predict exactly how consumers will react to new offerings. However, the educational games category is sufficiently young, and the opportunities are significantly great that for the foreseeable future good products properly promoted will do well. The company's product portfolio philosophy should help to eliminate variability assocated with consumer preferences. By introducing several new products each year and heavily promoting the best performers the company will be able to grow handsomely despite occasional disappointing product.

Cost Overruns, and Development Delays: Ever since programming was invented for ENIAC and Whirlwind, the first computers, project managers have been amazed at how long it takes to get an error-free final product. Projects which take longer than expected sap development resources, delay sales revenues, and can hurt consumer's confidence in the company. Nevertheless, SuperBoots has demonstrated with PAINT its ability to produce an error-free, sophisticated product on time. Project management is one of the firms greatest strengths, and management believes its ability to develop programs on schedule will improve as the firm matures.

Competitive Pressure: Competition is the greatest challenge SuperBoots will face. Only those software publishers which have access to retail shelf space, good realtionships with distributors, and name recognition for their products will survive. Smaller firms will be absorbed by larger software publishers, or they will go out of business as authors seek publishers who can promise greater distribution. SuperBoots management understands these challenges and is prepared to enter the market to win. It is important that SuperBoots move quickly so that it is in the market in time to help define the consumer software business rather than react to it.

FINANCIAL PERFORMANCE

Quarterly proforma income and cash flow statements have been included for three sales levels: 50,000, 45,500 and 35,800 units per product (Exhibit 13). An annual proforma summary includes information comparing all three sales levels. (see next page).

Assuming sales conform to management's expectations of 43,500 units per product, SuperBoots starts to show a profit in the fifth quarter, achieve net income of $391,000 in the second year, and begins to show a constant positive cash flow in the 9th quarter. By the fourth year SuperBoots will have a net income of $2.8 million, and will be in a position to make a successful public offering. Management projects capital requirements of $721,000 to offset negative cash flows during the first two years.

If sales average 50,000 units per product, the company would begin to show a profit in the 4th quarter, achieve continuous positive cash flow in the 14th quarter, and show net income in the fourth year at $3.4 million. This scenario confirms to Spinnaker's present success with similar products.

Sales of 35,000 units per product represents management worst case scenario. At this level the company would need second round financing in the 8th quarter. The firm would still be positive: net income would be $100,000 in this quarter, but working capital required would exceed this figure. Hence

SUPERBOOTS
PROFORMA SUMMARY

(000's)

For 35,000 units sold/product	Year 1	Year 2	Year 3	Year 4
Revenues	378	3,048	7,024	16,256
Gross Profit	231	1,862	4,492	9,936
Net Income	-136.6	253.4	774.5	2,115.6
Cast Flow	-636.9	-218.7	57.8	951.4
Cumulative Cash Flow	-636.9	-855.6	-797.8	153.6
For 43,500 units sold/product				
Revenues	469.8	3,788.2	8,730	20,206
Gross Profit	287.1	2,315.0	5,335	12,347
Net Income	-111.2	391.6	1,092.9	2,852.6
Cash Flow	-643.7	-55.7	386.7	1,013
Cumulative Cash Flow	-643.7	-699.4	-312.7	700.3
For 50,000 units sold/product				
Revenues	590.0	4,354.8	10,035	23,224
Gross Profit	330	2,611.1	6,133	14,190
Net Income	105.6	497.0	1,336.5	3,416
Cash Flow	-648.8	15.5	161.8	1,069
Cumulative Cash Flow	-648.8	-633.3	-471.5	597.5

there is a need for additional capital. 20% of the firm's stock has been reserved for further equity financing.

In all three scenarios, the firm expects a healthy net income-over-sales ratio. SuperBoots will realize between 13% - 14.7% of its 4th year revenue as after tax income for sales between 35,000 - 50,000 units per product.

THE OFFERING

In return for $750,000, SuperBoots offers investors 30% equity participation in the firm. 20% of the company's stock will be held in contingency for further financing. The remaining 50% will be allocated to management and for future employee stock options. Management will assign a portion of this stock to the Capital Childrens Museum.

SuperBoots will use this capital to fund software development expenses, capital equipment, and promotion. By the second year, promotion will be self supporting, and the firm will use much of its funding for working capital, largely to fund accounts receivable. The firm expects a continuous positive cash flow in the 9th quarter.

In the event SuperBoots sales fall short of projections a contingency calls for issuing additional stock. Because of the high working capital requirements of the software business, the firm might show a healthy net income, but require additional capitalization.

By the end of year 4, SuperBoots expects to show net income after tax of $2.85 million. Assuming a multiple of 8 the firm can return $6.8 million to its investors at the time of the public offering. This represents a return on investment of 73%.

LIST OF EXHIBITS

1. PRODUCT REVIEWS

   a) PAINT, and some magazines in which it has appeared
   b) SoftSide Review
   c) Creative Computing review
   d) Electronic Learning review

2) Capital Children's Museum Computer Education Activity. Instructional Innovator, September, 1981

3) Finding Home Computer Uses, New York Times, May 11, 1983

4) Sales and Installed Base of Personal Computers, 1979-1987

5) Home Computers Installed Base and Market Share, 1982

6) Software Market for $1K Personal Computers

7) Software Publishers Product Spectrum

8) Educational Software Publishers Estimated 1982 Revenues

9) SuperBoots Software Distribution

10) Product Introduction Schedule

11) Product Development Schedule

12) Expected Staffing Schedule, and Organization Chart

13) Pro forma Income and Cash Flow Statements

   a) Notes to financial statements
   b) Pro forma statement at 43,500 unit initial sales level
   c) Pro forma statement at 50,000 unit initial sales level
   d) Pro forma statement at 35,000 unit initial sales level

EXHIBIT 1

PRODUCT REVIEWS

a) PAINT, and some magazines in which it has appeared

b) SoftSide review

c) Creative Computing review

d) Electronic Learning review

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Paint

Reviewed by J. Harmon Grahn

by Superboots®, Capital Children's Museum, 800 Third Street, NE, Washington, DC 20002. From Reston Publishing Co., 11480 Sunset Hills Road, Reston, VA 22090. System requirements: 48K ATARI® 400/800 with disk drive and color television or monitor. Suggested retail price: $39.95.

Although creative artists may have had a traditional aversion to the world of computers until recently, startling developments in computer imaging may change all that — and bring into existence a popular new medium of fluid, creative expression.

ATARI® users now have an opportunity to explore some of the rich possibilities open to computer artists at an astonishingly affordable price. *Paint* is a program which allows you to do just that: paint colorful pictures on your color screen and save them for future retrieval on a disk. Briefly, *Paint* is to painting what word processing is to writing.

Paint is menu-driven with one-letter mnemonic commands. It is designed so a child can use it, but its fascination is by no means limited to children. You paint with a joystick (a handicap if you've ever worked with a digitizing pad and stylus — but then there's an enormous price difference between an $800 input device and a simple $10 joystick, so you are amply compensated for the inconvenience).

Virtually every letter on the keyboard represents an easily associated mnemonic command, from "A" for "Art Show" (retrieval of stored compositions) to "Z" for "Zoom" (two levels of magnification: 4X and 6X). You can imagine the astronomical variety of options available to you when you mix these commands in different ways.

To begin, you are presented a blank screen with a palette of ten little "paint pots" at the bottom. One contains the background screen color (for erasures), so you have nine colors to work with: three solid and six textured. With the joystick, you manipulate your cursor and place it in the color of your choice; press the firebutton. You have just "dipped your brush" and now have an inexhaustible supply of your chosen color. Move the cursor around the screen: any time you press the firebutton, and as long as you keep pressing it, your cursor will leave a linear trace of your chosen color. Dip your brush again, and paint freely over your first lines, or between them, or whatever. To erase, of course, just dip your brush into the background color and retrace an existing line. (To erase your whole screen, type an "E". *Paint* prompts for a confirmation, to which you may reply by typing a "Y" or an "N".)

The mnemonic command, "W" for "Width of Brush" and an integer (1-9) selects one of nine different brush sizes, from the equivalent of a pencil line to a wide swath of electric color. Additionally, there are nine brush types ("B" for "Brush") which give the leading edge of your brush stroke different profiles for some interesting effects.

For instance, you can select a calligrapher's brush which will enable you (with some practice) to create beautiful Gothic script with thin diagonal, and thick vertical or horizontal strokes. Other brushes give you solid horizontal and vertical strokes, but render diagonals in a surprising checkerboard pattern. Interesting things happen visually when you draw a closed figure, such as a circle, with a wide brush of this type.

This, however, is only the beginning of the rich possibilities awaiting you. For me, one of the most exciting moments came when I began to explore *Paint's* color mixing capabilities. There is a graphic color/texture menu which enables you to subtly blend the shades and hues in your palette. A few minutes (or, preferably, hours) spent mixing colors can teach you volumes about the visual interactions among them.

If you have drawn something on your screen, you might enter the color menu and change your palette around. Presto! Your composition is now rendered in an entirely new color scheme. Surprisingly, it may look quite different to you — not only in color, but in shape as well. The Impressionists spent years exploring these subtle color relationships with paint and canvas. Now you can do it in moments with electronic speed and facility.

Included with the color menu is a texture menu with seemingly endless variety. Use the joystick to isolate within a movable square a small portion of variably textured mosaic screen area. The colors in the mosaic may be altered with the same techniques used to alter solid colors. A mosaic texture pattern, once isolated and defined, is thus captured in a designated paint pot as a "color" in your palette and may be used like any solid color. The mosaic pattern will be repeated along any line you trace with a brush dipped in its "color." The wider your brush, the more of your pattern will be represented in a stroke. The effect can be something like Seurat's visual mixing of points of pure color.

Using the Zoom function, you may greatly magnify your composition for detailed work. At 16X, a thin line becomes a chain of sharply defined square picture elements, or pixels, which are the smallest units of color in your composition. With patience and skill, you may manipulate your composition one pixel at a time.

Paint operates at a basic resolution of 160 X 80 pixels. The "Z" command is a switch that, when pressed once, takes you to 4X magnification and a resolution of 80 X 40 pixels. Pressed a second time, you're at 16X magnification and a resolution of 40 X 20 pixels. "Z" again, and you're back to 4X. Again, and you're back to your 160 X 80 pixel, full screen.

Paint's palette has 128 different shades and hues. That breaks down to 16 different hues, each with 8

levels of luminance. The texture menu offers some 7,000 or 8,000 different textures. Nobody knows for sure just how many are possible.

So, what is *Paint* good for? Is it a toy, or a tool? The manual, by educator Alex Packer, is written for children and is quite unlike the documentation that comes with most software packages. It is breezy and light in tone, and carefully calculated to disarm the wary or skeptical computer illiterate, whether child or adult. For example, in going through the alphabetical list of mnemonic commands, you will come upon: "No. How to say No when asked to confirm whether to erase a picture: 1. Press N for No. 2. Stamp your feet. 3. Pull your hair and yell No!! No!! No!! Never!! I won't erase!! Never!! 4. Hold your breath. Turn red in the face..." Or again, when you get to "Vee. Vee don't seem to have a V here. Tee hee." (There isn't a "T" mnemonic either — "unless you have a cup.")

Yet the book economically and efficiently gets across all the information needed to operate *Paint* — with room to spare for a chapter on "How Computers Work," a lightning, and in some ways enlightening, overview of art history; "From Cave to Computer," a discussion of current trends in "Computer Imaging;" and a more detailed look at the work of three contemporary "Computer Artists." The final chapter, "Idea Shop," is intended to shake loose old concepts of art and get your juices flowing into this new and very different creative medium. Profusely illustrated and with eight pages of color plates, the book is only somewhat over 100 pages in length.

"If I could influence your review at all," co-creator of *Paint*, Guy Nouri, told me, "it would be to say that what went into the program was the effort of several people above and beyond the call of duty." Eric Podietz deserves the lion's share of the credit, according to Nouri. "Eric is a master programmer who kept 120 pages of hexadecimal code in his head throughout the project," Nouri said.

Paint was conceived and designed by Nouri and Podietz, and was developed and extensively tested at the Capital Children's Museum in Washington, D.C.. The book was written by Alex Packer in collaboration with Heather Harney at the Museum, and Guy Nouri. The program underwent months of prerelease testing at the Museum — and something needs to be said about that.

The Capital Children's Museum (CCM) is a hands-on museum created and designed especially for children. It became intensively involved with computers early in 1981 when ATARI® donated 30 computer systems to what became the Museum's Future Center, a computer classroom.

Since its inception in 1974, CCM has grown rapidly and now serves over 200,000 visitors per year. Schools from all over the District of Columbia and surrounding suburbs regularly send classrooms of children to the Future Center to gain hands-on experience with computers. This is the environment in which *Paint* was developed and debugged. It has withstood the trial by fire, which bodes well for those who might be worried about software support.

On this count, Nouri praised Reston Publishing Co.. *Paint* is Reston's first venture into the software market. "They have been very supportive in getting the product together," Nouri said. "They know the program very well and can answer most questions that may arise."

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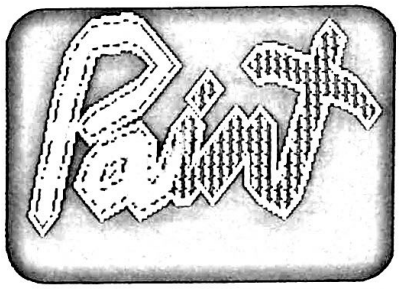

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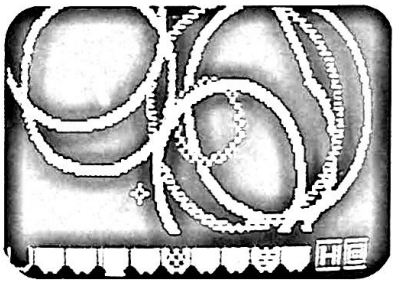

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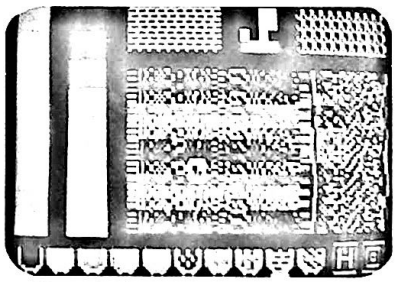

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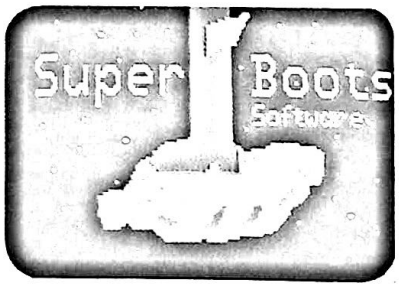

One of the pictures contained in the "Art Show" portion of *Paint* shows the commercial art capabilities of the program.

levels of luminance. The texture menu offers some 7,000 or 8,000 different textures. Nobody knows for sure just how many are possible.

So, what is *Paint* good for? Is it a toy, or a tool? The manual, by educator Alex Packer, is written for children and is quite unlike the documentation that comes with most software packages. It is breezy and light in tone, and carefully calculated to disarm the wary or skeptical computer illiterate, whether child or adult. For example, in going through the alphabetical list of mnemonic commands, you will come upon: "No. How to say No when asked to confirm whether to erase a picture: 1. Press N for No. 2. Stamp your feet. 3. Pull your hair and yell No!! No!! No!! Never!! I won't erase!! Never!! 4. Hold your breath. Turn red in the face..." Or again, when you get to "Vee. Vee don't seem to have a V here. Tee hee." (There isn't a "T" mnemonic either — "unless you have a cup.")

Yet the book economically and efficiently gets across all the information needed to operate *Paint* — with room to spare for a chapter on "How Computers Work," a lightning, and in some ways enlightening, overview of art history; "From Cave to Computer," a discussion of current trends in "Computer Imaging;" and a more detailed look at the work of three contemporary "Computer Artists." The final chapter, "Idea Shop," is intended to shake loose old concepts of art and get your juices flowing into this new and very different creative medium. Profusely illustrated and with eight pages of color plates, the book is only somewhat over 100 pages in length.

"If I could influence your review at all," co-creator of *Paint*, Guy Nouri, told me, "it would be to say that what went into the program was the effort of several people above and beyond the call of duty." Eric Podietz deserves the lion's share of the credit, according to Nouri. "Eric is a master programmer who kept 120 pages of hexadecimal code in his head throughout the project," Nouri said.

Paint was conceived and designed by Nouri and Podietz, and was developed and extensively tested at the Capital Children's Museum in Washington, D.C.. The book was written by Alex Packer in collaboration with Heather Harney at the Museum, and Guy Nouri. The program underwent months of prerelease testing at the Museum — and something needs to be said about that.

The Capital Children's Museum (CCM) is a hands-on museum created and designed especially for children. It became intensively involved with computers early in 1981 when ATARI® donated 30 computer systems to what became the Museum's Future Center, a computer classroom.

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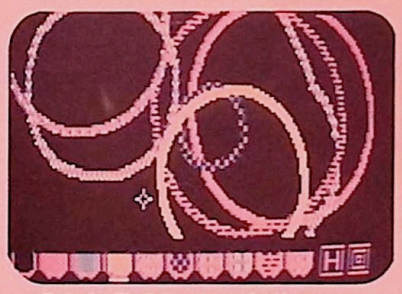

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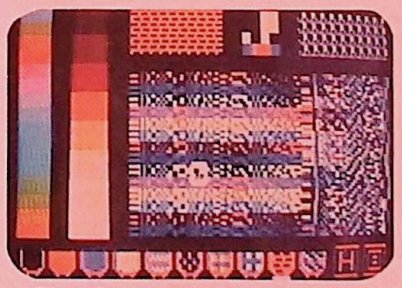

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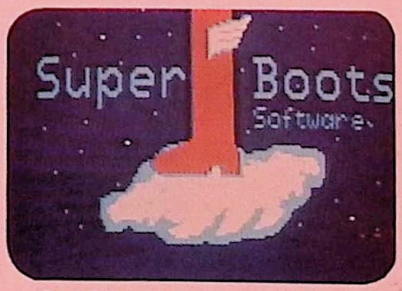

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creative computing software evaluation

Electronic Canvas

John Anderson

The Possibilities

You may be getting tired of hearing me rave about the graphics potential of the Atari. Well I'm not going to rave anymore — I am just going to show you some pictures. They will save me thousands of words.

Paint is the most ambitious joystick-based drawing system available for the Atari computer. It has capabilities that outstrip systems that cost five times as much. It allows even the absolute beginner to experiment with most of the graphics potential the Atari brings to microcomputing. And it is so simple, even a child can use it. In fact, it was designed with children in mind. I cannot think of a better inducement to kids than a program such as this.

There are actually two drawing programs included with *Paint*, SimplePaint and Superpaint. SimplePaint is an unimposing, scaled-down version of the main program, Superpaint, devoid of powerful features and therefore also of all complexity. SimplePaint stands more as a tutorial starting point than a valuable program in its own right. It is doubtful whether the user, child or adult, will spend much time with it. Not after he discovers the majesty of Superpaint.

The Features

The joystick is manipulated to move a blinking cross hair around the screen. Press the trigger, and the cursor draws. You may choose from nine different "brushes," in nine different widths, for a total of 81 styles of brushstroke. You may choose a brush that paints a wide swath in one direction, and a narrow one in another. You can choose a fine line (resolution to graphics 7), or paint huge areas at a time.

At the bottom of the screen ten "paint pots" are displayed. Move the cursor into one of the pots, and press the trigger. Your brush will pick up the new color. Four of these are solid colors, six are patterns — plaids, if you like. Each of these colors as well as their luminosities can be changed. Each of the plaids can be altered as well. They default to a very pleasing set, but it is tough to avoid playing with them.

Next to the paint pots are two other symbols. One is an H, and when the cursor is moved onto it and the trigger pressed, the help menu appears. Everything about *Paint* can be accessed from its superbly designed system of nested menus. As the user gains proficiency, commands can also be input to the keyboard directly. Thus the system is able to cater to the beginner and the expert alike, without inconvenience to either.

The symbol to the far right, looking like squares within squares, is the zoom symbol. Move the cursor onto it and press, and the picture enlarges to graphics 5. Press it again to move to graphics 3. Move the cursor from within these modes, and smooth scrolling takes place. You can travel smoothly throughout the painting in these magnified modes, doing detailed work with great accuracy.

Other commands place real graphics power in your hands. Aside from the direct drawing mode, you can choose the automatic generation of straight lines, rectangles, and circles. They will place themselves exactly where you indicate, in the size and brushstroke you have chosen. This capability is indispensable in building designs. Once closed shapes have been formed, either freehand or automatically, they can be filled with any color or plaid. The fill coloring is quick, perfect, and fun to watch.

Colors and luminosities can be changed as you look at a painting, or as you look at an electronic palette, which indicates the choice on a rainbow-hued color menu. Plaids can be changed only while you are looking at the color menu. The cursor then becomes a roving square. You choose the pattern you want

creative computing
SOFTWARE PROFILE

Name: Paint
Type: Graphics composer
System: Atari 800 48K
Format: Disk
Language: Machine/Basic
Summary: Impressive, powerful graphics package making full use of the Atari.
Price: $39.95
Manufacturer:
Reston Software
11480 Sunset Hills Rd.
Reston, VA 22090

by placing the cursor on displayed pattern bars and pressing the trigger.

Other features round out the strengths of the program. The responsiveness of the nondrawing cursor can be damped, as can the responsiveness of the cursor when it is drawing. This may seem a trivial feature, but is very handy when doing detail work. I tended toward using a quick cursor when moving without drawing, and a slower cursor when drawing, for added control.

Okay, so you have created a masterpiece. What to do with it? Save it to disk, of course. Multiple pictures can be saved to a single disk. The Art Show feature allows all pictures on a disk to be displayed. You can use multiple drives, and retrieval time is very quick. You may even number the order in which you want paintings to be displayed. You could conceivably create sequences approaching animation using this technique. Press the space bar to pause on a single picture. Press it again to continue. Another command allows pictures to be deleted.

The Concept

Paint is an effort of SuperBoots, a talented and promising software team working for the Capitol Children's Museum in Washington, D.C. The programmers are Eric Podietz, Jimmy Snyder, and Mark Scott.

Obviously intended to be an educational package, *Paint* manages to convey fully the flavorful, imagination-spurring mood fostered at the Children's Museum. As a program designed to involve children, it is a masterpiece.

The Shortcomings

Accompanying the remarkable software is an equally ambitious softcover book, which in addition to documenting the package, attempts to present an overview of art history from the dawn of man to the dawn of microcomputers.

On this account it does not do anywhere near as well. The scope of the task, in contrast to the space alloted, nearly dooms it to failure on the launch pad. The fact that the text suffers from a terminal case of the "cutsies" strikes the fatal blow.

Certain passages of the book strike, like a blow to the vitals. "Nothing, with the possible exception of fire, acne, the wheel and sex, will have a greater impact on your life than the computer," reads the introduction to chapter two. A paragraph in chapter three reads "Yes, no, yes, yes, maybe, hmmm, I don't know, could be, yes, no, no, yes, yes, kind of, oh, who knows?" This kind of drivel typifies what some adults think kids eat up. Sorry; only dumb adults, if anyone, see value in patronizing kids.

In fairness, the book is well-intentioned, and includes some handsome color plates, ranging from Matisse to computer-generated graphics by Mark Lindquist. The book unfortunately ignores the work of Tom deFanti, Abel Associates, and MAGI. In its ineffective but passionate argument for the legitimacy of computer-generated art, it nearly makes the case of opponents like Robert E. Mueller (see "When is Computer Art Art," in the January issue). Proponents of computer art will cringe at the uneven and pronouncement-packed propaganda presented in the text of *Paint*.

Unfortunately, no provision is made for recalling paintings from any other programs.

But wait a minute. The package was designed to stimulate the imagination, and that it does. And despite the fact that the accompanying text is putrid, the package remains superb.

Of course it could have been better. Unfortunately, no provision is made for recalling paintings from any other programs, Basic or otherwise, aside from *Paint* itself. This is a shortcoming that could have been easily set right. Further, the paint pot portion of the screen, which comprises what would otherwise be the text window, cannot be removed, and the images are, therefore, always cropped on the bottom. It was wasteful not to have allowed for paintings to take up *all* the available screen area, with an option to toggle the paint pots on and off the screen. Perhaps these improvements will appear in a future version of the program.

In the title card of the program, fill routines are used to "animate" the image. It would be wonderful if this power were made available to the user. Reston Software has announced another package, *Quick Flix*, for release shortly. It is an animation development package, which may offer this kind of capability.

Despite my occasionally strong reservations about the text, I unreservedly recommend *Paint* as a must for the Atari graphics enthusiast, and the enthusiast's kids as well. At $39.95, it is a worthwhile bargain. □

SOFTWARE REVIEW

PAINT

HARDWARE:	Atari 800, 48K, joystick
SUBJECT:	Computer art
LEVEL:	Pre-school to Adult
SOURCE:	Reston Publishing Company, Inc., 11480, Sunset Hills Road, Reston, VA 22090
COST:	$39.95

IF WE ALL BELIEVED OURSELVES to be Picassos or Van Goghs then *PAINT* would be unnecessary. Those of us who don't should welcome this offering from the Reston Publishing Company in conjunction with the Capital Children's Museum in Washington, DC. *PAINT* provides an excellent opportunity to create pictures while exploring color, texture, contrast, shape, and form in a nonthreatening and pleasant atmosphere.

In the classroom, *PAINT* can be used as a prerequisite and/or reinforcement tool for painting, computer art, or other two-dimensional activities, using one of two modes—SuperPaint and SimplePaint. The SuperPaint mode provides each artist with

(Continued from page 69)

a palette of a background color, three other solid colors, and six patterns or textures (combinations of the first four colors), all sitting in paint pots at the bottom of the screen, and a choice of brush widths and painting speeds. In addition, there are numerous "commands" available, including mix, draw, erase, fill, circle, rectangle, line, and zoom. The SimplePaint mode is designed for younger artists, and includes four brushes and colors, and the mix and erase commands.

Using the joystick or keyboard, the artist moves the paintbrush, (a cross-shaped cursor) in any direction to create designs or pictures. Color can be changed by dipping into different paint pots; brush width or speed changed by keying in the requested width or speed number. The "mix" command enables the artist to alter the hue and brightness of a color. With a little practice, a red, yellow, and blue scene can be transformed to one filled with pinks, greens, and oranges. It would be nice, however, to really be able to mix colors—to paint yellow over blue to produce green, for example.

The more one uses *PAINT*, the more versatile one becomes with the various functions. The help command can be quite useful, especially in the beginning. The ability to use either the joystick or the keyboard is a particular advantage, because while a younger artist may find the joystick easier, the keyboard allows for extra control. More detailed explanations of the functions would be helpful; in particular the magnification command, "zoom," would be better used if suggestions were included in the documentation.

The nicest aspect of *PAINT* is that it provides a forum for free expression and encourages creativity and experimentation. Teachers may find that students are less intimidated by the screen than they can be when faced with a blank sheet of paper. And the immediacy of a computer's response is conducive both to creating and to teaching. Teachers can demonstrate a concept instantly, whether it be space, line, shape, color, pattern, intensity, or overlap.

PAINT's many facets can be adapted to a number of teaching purposes. A third mode, "Art Show," allows painters to retrieve up to 24 finished paintings and display them in a slide show format. Art Show (which requires an extra disk) might be used to critically evaluate and discuss the student's use of color, shape, and form.

The documentation is also a great source of instructional ideas. The art history section, "From Cave to Computer," is a brief and to-the-point synopsis that would be a convenient resource in any art class. There are also informative sections on computer imaging and computer artists, and an introduction to how computers work, all written in a folksy, entertaining style. The Idea Shop lists a number of inventive ideas for painting, all of aesthetic value (*PAINT* the beginning of the world, or *PAINT* what you think the insides of a tomato would look like), which could be used as bonus activities in any classroom with a computer.

Non-art teachers could also make use of *PAINT* in creative activities such as making illustrations for reports or designing awards. A computer science teacher might introduce *PAINT* as a good example of the possibilities of computer art, or to demonstrate some of the characteristics of the Atari. And for all would-be Van Goghs of any age, *PAINT*'s possibilities are endless.

Reviewed by:
Beth Lazerick, Coordinator of Elementary Computer Education
Shaker Heights City School District
Shaker Heights, OH
Barbara Weiss, Art Teacher and Consultant
Agnon School
Beechwood, OH

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EXHIBIT 2

Capital Children's Museum Computer
Education Activities

Article from Instructional Innovator, September 1981

2. COMPU-TOTS AND OTHER JOYS OF MUSEUM LIFE

Peter Hirshberg

Public access to computer literacy programs is the newest goal of the Capital Children's Museum.

The day Future Center opened last April, more than 200 visitors flocked to the computers in "tomorrow's classroom" at the Capital Children's Museum. Radio stations and newspapers had been touting Future Center for several days, so the public arrived with all sorts of expectations.

Most Washingtonians came because they were curious; they'd heard about the "computer revolution," but still doubted that they personally would ever use one of the machines. Some were hoping for games to zap aliens throughout the universe, or a big number cruncher tamed to play tic-tac-toe. At least one father was looking for an electronic babysitter to relieve him of the kids for a few hours.

What visitors to Future Center actually find is a classroom with 20 Atari 800 microcomputers, each equipped with printer, disc drive, and color monitor. Computers ring the room along a continuous sawtooth table that affords each visitor a personal work space, and allows each student a view of the neighbor's monitor—a reassuring arrangement for first-time programers who aren't yet sure whether they're typing the right thing!

In the few months since the classroom opened, we have learned much about how to introduce the uninitiated public to computer technology, how to nurture a growing fascination with the field, and how to alter our format to accommodate the greatest possible range of ages. Future Center was created to serve a broad and diversified group: our youngest students are preschoolers who attend classes with their parents; our oldest students are senior citizen volunteers who, as part of the museum floor staff, attend beginning computer classes. Our most sophisticated students are decision-makers from Capitol Hill who are attending sessions on economic modeling and the latest innovations in computer graphics.

Learning by Doing

The classroom is the latest project of a museum dedicated to hands-on learning. The museum's participatory exhibits invite visitors to experiment with, manipulate, build, crawl through, even try on the exhibit elements.

Future Center follows in this participatory tradition. Its purpose is to provide the experience of working with the computer, of controlling it yourself. This is simply not possible on an exhibit floor, where visitors are bombarded with things to do and each machine has several kids competing for it. Only when youngsters have an opportunity to explore a computer in depth, in Future Center or a similar classroom situation, can they begin to get the feel of *thinking with* the computer. Using the orderly, logical rules of a computer language, they develop a far more profound and elegant understanding of the computer—not merely as a specific tool, but as an aid to thought.

Future Center, then, is a public-access computer center for people in the nation's capital. Public access means that people who have no previous experience with computers can readily come in for a complete course or a single session; they can learn to program or merely become familiar with computer capabilities; they can run existing software or sign up to develop software on their own.

The idea of a public-access computer center was probably born at the Lawrence Hall of Science on the University of California's Berkeley campus. There, in 1972, a course called Creative Play with Computers was offered to the public, using teletypes and the university's time-sharing system. Over time it became a big success.

Since then, other public-access centers have been started; but the most significant ones still are in the San Francisco Bay area. Computer Town USA, in the suburb of Palo Alto, sets as its goal the computer literacy of all the kids in town. Youngsters visit the local library, where they are checked out on the microcomputers and issued a "My Computer Likes Me" button, which allows them free rein of the

Peter Hirshberg is manager of the computer center and coordinator of the Communications Project, Capital Children's Museum, 800 Third Street NE, Washington, DC 20002.

facility.

Such facilities serve important functions: they expose a broad segment of the nontechnological-minded population to computers, and in the process they debunk a lot of myths about the computer's being difficult or obtuse. They can also bridge the gap between the wealthy school districts that have relatively frequent access to computers and depressed areas that have little or no access to such equipment. Capital Children's Museum, for example, through its MET-Kids program, provides free access and instruction to youngsters in our neighborhood, one of the poorest in Washington, DC.

Courses for Everyone

The museum—with the assistance of Atari, which donated the computers—designed a model computer classroom and developed a curriculum of nine courses. These range from Compu-Tots (for preschoolers and their parents) to An Introduction to Programing (for adults). Compu-Tots, the first course to sell out, introduces four- to seven-year-olds to such concepts as a computer program and computer memory, and to the use of the keyboard. By their second class, these students write a graphics program that produces their initials in color.

In the process, they become enchanted with the machine. At a recent session, a seven-year-old who had previously only played arcade games told a visitor how exciting it is to control a computer, something he'd never before thought of doing. His teacher added: "Too often computers are either used in school for structured computer-assisted instruction, or they're just a game, like Space Invaders. I want the kids to realize that we control and program the computer, not vice versa."

In more advanced courses, students write programs in BASIC, then explore examples of computer applications that range from simulations to computer graphics and text processing. The Introduction to Programing for adults attracts individuals with a range of interests: mothers who want to influence their children's schools to buy computers, teenagers taking the course in the summer, young professionals, two 67-year-old women who just decided to come in and see what it was all about.

This course also features an overview of the role of computers in society and allows time for group discussion of the impact of these developments on schools, the postal system, and personal privacy. We added this feature after several students commented that while they were beginning to get a feel for programing, the idea that the computer is at work throughout society still overwhelmed them. The solution was to bring into the classroom a broad variety of computer artifacts—chips, a large disc from a mainframe computer, photographs of robots as well as other unusual applications. We found this very successful in reducing the students' fear of "computer pervasiveness."

Another course, Draw!, introduces participants to computer graphics. Students design a banner, turn a comic-book character into a computer display, and learn the principles of animation. In this course we introduce a peripheral, the VersaWriter drawing board, which allows the user to trace a picture directly into the computer memory. As an overview of the graphics field, the teacher shows segments of several videotapes on advanced animation techniques used in producing television commercials, image enhancement methods developed at NASA, or a simulated tour of the human brain. These startling and provocative tapes, usually considered esoteric, are seldom shown to the public.

A workshop for teachers with no computer experience also is slated for the fall. Teachers taking this course will receive an overview of programing and of the kinds of computers and software in use at schools; they'll also be given a bag of computer objects—cartoons, chips, magnetic tape, and printouts—to take back to their classes.

Future Center reaches a large audience through its "group specials" for school classes, camp groups, or members of other organizations who visit the museum as a field trip. We charge $2 per hour per group member. For many schools in the region without any computers, this is the only option for giving their students computer experiences.

One of the most talked-about Future Center offerings is our Computer Birthday Party. For years, parents have been hiring clowns and magicians to entertain at their children's parties, or making the traditional trip to a ballgame or the movies. The Future Center alternative includes a chance to write a short program, play several educational games, and listen to a rousing rendition of "Happy Birthday" synthesized by an Atari microcomputer. Each child also has an opportunity to make a personalized happy birthday banner.

To our amazement, the first request for the Computer Birthday Party came not from the parent of a young child, but from the wife of a prominent architect who wanted to do something different for her husband's birthday. We ended up with an unusual group of 40 architects, lawyers, accountants, and other professionals having a blast with computers. It would not be surprising if this proved to be just the impetus some of the partygoers needed to start thinking about how they might use small computers at the office or at home.

Talented Young Assistants

Computer interns—high school and college students who have been trained to assist our teachers—are crucial to the smooth operation of the

courses. Our nine part-time interns were hired because they all had previous computer experience in school and were enthusiastic and knowledgeable enough to assist in our classes. At present, our ratio of three interns for each 20 students in Future Center allows ample assistance and permits immediate answers to participants' questions.

These assistants have proved invaluable—and full of surprises. One, a college sophomore, had moved to the Washington area and enrolled in a major university here because she had already taken all of the undergraduate mathematics courses offered at her former school in Florida. She told us she is thrilled to be working at the museum because she also teaches a freshman computer course at a local university, and has been frustrated with their slow, lumbering, and somewhat boring batch-processing system.

Another intern, a 15-year-old high school student, applied for the job in a letter that included this note: "This letter is being typed by the word processor I developed for my TRS-80. I also sell the computer games I write to publishers for extra cash." Needless to say, we were delighted to have him.

Our youngest intern, who reminds everyone that he will *soon* be 15, was already an assistant computer teacher at his high school. Soon after joining us, he visited Boston with his family for the weekend. There he spent a day with a consultant to the Capital Children's Museum who is an outstanding programer from the Massachusetts Institute of Technology (MIT). When he returned, he knew more secrets about the Atari than anyone on our staff would ever have had time to learn. We have since hired him as a full-time summer employee and loaned him a computer for the season. Now he programs at home when the museum is closed.

With students like these, it's no wonder teachers are concerned that they will encounter youngsters, even elementary school students, who know more than *they* do about computers. Eventually, when Future Center offers advanced programing courses, we expect to pick up several youngsters who have exhausted their schools' repertoire of computer courses.

Curriculum Design

The keystone in the success of this project has been the design of appropriate curriculums. Curriculum design is under the guidance of our exuberant, energetic, and imaginative head teacher, Judy Muntner, who works with gifted and talented children in Montgomery County, Maryland. Brian McGlaughlin, who has researched the use of computers in early childhood education, also has provided curriculum guidance.

The curriculum emphasizes development of programing skills in students as rapidly as possible. The youngest students who attend Compu-Tots class are supported in this by a parent, who can help the child with the small amount of reading and typing skills necessary to use the computer. Older elementary students are encouraged to experiment with the keyboard, and then given a short program to run that introduces them to computer operation.

Our course philosophy also uses the inherent fascination that children have with their own names. In a series of introductory activities, the children print their own names on the screen, print it over and over again in a loop, and learn about graphic commands by designing and creating big, colored initials that cover the entire screen. Other activities allow students to explore the Atari computer's sound generation and color graphics abilities, which stimulate students' interest.

Young computer students, and older children who sign up for our recreational Computer Lab course, are allowed to select alternative activities from our file of computer software. Favorites include *Beans* (in which you estimate the number of "beans" that appear in a jar on the screen), *Darts* (which promotes an understanding of fractions), and *Centimeter Eater* (a program developed in-house in which the user gains an intuitive feel for metric linear measurement by estimating the length of lines).

Software a Problem

One of the greatest frustrations that we have experienced is the dearth of adequate microcomputer software, specifically worthwhile educational programs. At present there are a variety of exciting games and some fascinating simulations available; but when we look for educational programs that are equally significant (in terms of what the computer can do), we find very little—and much of *that* is boring.

Educational computing is still dominated by the tenets of computer-assisted instruction (CAI)—the notion that the computer is a teaching machine that feeds the students text and questions, evaluates the response, and prescribes the next step. While highly appropriate for a limited number of specific learning situations, this approach has been overused and therefore abused, and has led to the endless production of software products that are no more than electronic pages: quizzes, drills, and frames of facts.

Truly exciting educational programing allows learners to test their own thinking actively. An open-ended programing assignment can facilitate this, as can a simulation that allows children to develop and refine their assumptions about the world.

wo computer languages that permit the user to postulate a problem and then explore it are Smalltalk, developed by Alan Kay at Xerox Parc, and Seymour Papert's LOGO, developed at

MIT. LOGO, which is slowly being adapted to microcomputers, allows a child to direct the computer in open-ended explorations. Mavis Wylie, the museum's head of program development, has said that as a result of interaction with the computer using LOGO, the child's experience becomes one of cognitive exploration, rather than a lugubrious mathematical translation. When creating a program, a child is challenged to "think about thinking" (to quote Papert)—a far more desirable state than worrying about the syntax and subscripts of a more primitive computer language.

We believe the Future Center environment will be significantly enhanced when a language like LOGO is available. At present we have only two Texas Instruments 99/4 computers that run LOGO. Until LOGO is adapted for the Atari, BASIC is the language we use. As much as possible, our curriculum simplifies BASIC so that children are able to direct computers to write programs of their own design. But BASIC was initially designed for adults using time-sharing systems; its graphics depend on coordinate geometry and matrixes that are less obvious than such languages as LOGO.

his is a critical time for microcomputer education. Will we create educational software that fires the desire to learn, or will less inspired programs become the norm? Can we avoid a disparity between computer "haves" and "have nots," or will this technology be a luxury that only well-to-do school systems can afford?

At the Capital Children's Museum, just a short walk from the U.S. Capitol, Future Center is a model classroom that is grappling with these issues. ■

EXHIBIT 3

Finding Home Computer Uses

New York Times, May 11, 1983

Business Day

The New York Times

Finding Home Computer Uses

Game Playing Is Still No. 1

By ANDREW POLLACK

Gary Berger, a concrete salesman from Englewood Cliffs, N.J., purchased a home computer that he uses to keep track of his investments and to learn about computers. While he is happy with his purchase, he said, "I am somewhat disappointed that there are not more home uses for it."

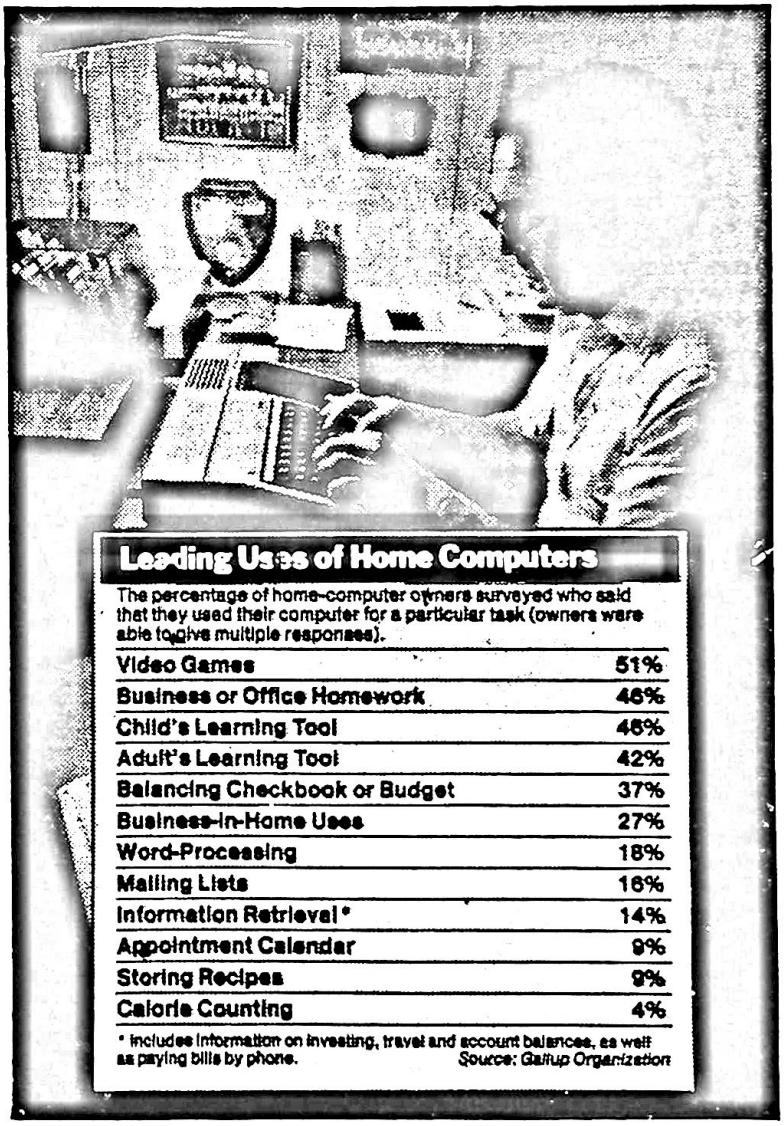
Dr. Charles Plotz, a Brooklyn physician, purchased a computer for word processing and financial records. But he found that the computer "doesn't do anything more for me than an electric typewriter" and that record-keeping "is easier to do by hand."

The examples illustrate a predicament facing many home computer owners — what to use the machines for. If useful applications are found, industry analysts say, computers could become a common household appliance. If owners fail to find uses beyond game playing, however, some fear that the devices will be relegated to the closet.

Moving Beyond Games

Public opinion polls and surveys show that uses of home computers — now in 3 to 5 percent of the nation's households — are spreading beyond game playing. While games appear to be the main use, three other categories are almost as important — education, primarily learning about computers themselves; business-related work, and personal management tasks, such as storing household financial records.

Many so-called personal computers, such as those made by Apple Computer Inc., are actually used in business, not in the home, and some analysts therefore define home computers only as relatively simpler machines selling for less than $1,000 and made by manufacturers such as Texas Instruments, Commodore International and Timex. However, surveys show, roughly one-third of computers used in the home are actually of the more expensive variety. Most of the surveys look at all computers used in the home, regardless of price.



Leading Uses of Home Computers

The percentage of home-computer owners surveyed who said that they used their computer for a particular task (owners were able to give multiple responses).

Video Games	51%
Business or Office Homework	46%
Child's Learning Tool	46%
Adult's Learning Tool	42%
Balancing Checkbook or Budget	37%
Business-in-Home Uses	27%
Word-Processing	18%
Mailing Lists	16%
Information Retrieval *	14%
Appointment Calendar	9%
Storing Recipes	9%
Calorie Counting	4%

* Includes information on investing, travel and account balances, as well as paying bills by phone.

Source: Gallup Organization

The New York Times / Thom O'Connor

Gary Berger, a concrete salesman, using his Texas Instruments home computer in the den of his home in Englewood Cliffs, N.J.

Analysts say that the variety of uses indicates that the computer may soon become commonplace in the home. However, a compelling use has not emerged that would make the computer an essential purchase. Using the computer for communications, to send letters, pay bills, order merchandise or retrieve information could fill that bill, analysts say. But only 10 to 15 percent of home computers have such communications capabilities now.

"I don't think it's going to be any one application or function," said John A. McNee, vice president of the Gallup Organization.

In a Gallup survey last January, 51 percent of home computer owners said they used their machines to play games. But 46 percent said they used

Continued From First Business Page

them for business or office homework; 46 percent as learning devices for children, and 37 percent for balancing the checkbook or analyzing household budgets.

The preliminary results of a survey by Arthur D. Little Inc., the consulting concern, and its subsidiary, the Opinion Research Corporation, show home computers now are used most for personal management, surpassing entertainment, according to Everett T. Meserve, a computer industry analyst at Little. Personal management includes the maintenance of household budgets, analysis of investment decisions, word processing for writing letters and reports, and the listing of phone numbers and stamp collections.

'Lasting Value'

"What we're seeing in fact is that the computer in the home has a utility that is of lasting value," Mr. Meserve said. "It's quite significant because it says we don't have a flash in the pan."

Not everyone agrees. Other surveys continue to find the predominant use to be game playing, and many owners express frustration with the difficulty and expense of adapting computers to other uses. This is especially true for the least expensive computers, which sell for less than $200 and in one case for less than $50.

"Overwhelmingly we found that very little serious use seems to be made at the home level," said Bert Cowlan, who directed a study on home computer software for Frost & Sullivan, a consulting and market research firm. Creative Strategies International, a San Jose, Calif., market research firm, estimates that 57 percent of the programs sold for the under-$1,000 home computers in 1982 were for games, 22 percent for education and 18 percent for home management, with the remainder for other uses.

One computer manufacturer, whose spokesman asked to remain unidentified, estimated that 50 to 75 percent of the time spent using inexpensive home computers is for game playing.

A survey by Yankelovich Skelly & White Inc. showed yet a different result. About 33 percent of computer owners said the primary use was for business. Some 25 percent listed games as No. 1; 15 to 20 percent named learning about computers, and 10 to 15 percent reported household record-keeping, according to Arthur Shapiro, executive vice president.

Problems With Surveys

All of the public opinion polls are hampered by small sample sizes because of the small number of home computer owners. Surveys of several thousand people yield only 100 or so users. With such small ownership, detailed analysis of use patterns is impossible, officials of the market research companies say.

Games account for the bulk of software sales, industry analysts say, partly because games have a short life span. A computer owner might buy several games but only one home budget program, which can be used indefinitely. Similarly, games might constitute the main use of computer time, but not the main reason for the purchase. Indeed, education for children seems to be a major motivation.

"There's a scare going on right now that unless you're computer literate you're going to be unemployable," said Roger Harrison, a bank data processing manager who has two home computers.

Analysts say that developments of more powerful computers and of better programming will shift use away from game playing.

At present, using a computer for word processing or record-keeping, for instance, requires a disk data storage device, a full keyboard, a printer and ample internal memory. Those are not available on the least expensive computers without large additional cost. While the basic Texas Instruments home computer sells for less than $200, Mr. Berger, the concrete salesman, ended up spending as much as $2,000 for all the hardware attachments and software. But computers are coming onto the market that offer many uses for less than $1,000.

Portable Computers

Two other trends will also make the home computer more useful, analysts say. One is that as home computer use grows, more software will be written for the home market. The second trend is the development of lightweight portable computers, which experts predict will lead to increased shuttling of computers between home and office, blurring the distinction between home and business use.

Such shuttling and combined business and home use are already going on to some extent even with larger, desktop computers that cannot easily be transported. An I.B.M. survey found that 60 percent of its computers — which sell for $2,000 or more and are not generally considered mass consumer items — are being used in the home, although more than half of these home machines are being used primarily for business-related purposes. Another 11 percent of the computers are being transported between home and the office.

Still, it is unclear whether record-keeping or home budget analysis will be necessary for many people or will become more than a minor use for computers purchased for other reasons. In some cases, it is easier to keep records by hand.

The Texas Instruments home budget program, for instance, can estimate expenses in numerous categories and show consumers whether they are above or below their budget levels in the various categories. But all this comes at a price.

"Someone has to type in all that information," said Marvin Shuldman of Kendall Park, N.J., head of a group of Texas Instruments computer owners. "You have to put down every check you write and everything you buy. I found it too much work."

Profile of Computer Buyers

Who owns what type of home computers? Public opinion polls differ on specifics but are beginning to provide a profile. Following are a few of the polls' findings:

¶Between 3 percent and 5 percent of the nation's households have computers. That would translate into between 2.4 million and 4 million computers in American homes.

¶Many computer owners are relatively wealthy. In a mail survey of 5,000 households in January, the NPD Group of Port Washington, L.I., found the mean income of households with computers was $26,800, compared with $21,600 for all households.

¶Children seem to be a major reason for buying computers. The Roper Organization found that 4 percent of households had computers but that 6 percent of households with teen-age children had them.

¶Both Roper and the Gallup organizations' surveys showed that about half of those who did not own a computer had at least some interest in buying one, but that the other half of the population did not. Gallup, for instance, found 17 percent very interested in owning a computer, 19 percent fairly interested, 17 percent not too interested and 45 percent not at all interested. Two percent said they did not know. Lack of interest was predominant among those over 50 years of age. National Family Opinion of Toledo, Ohio, found that 3 percent of the respondents to a mail survey said they intended to purchase a computer in the next six months.

¶About 60 to 70 percent of those with home computers have machines that sold for less than $1,000, according to the results of Yankelovich Skelly & White and of National Family Opinion. Yankelovich found that 40 percent spent more than $1,000 on computers and 23 percent more than $2,000. Some 25 percent spent between $500 and $1,000; 23 percent between $250 and $500, and 8 to 9 percent less than $250. The survey included peripherals such as disk drives in the price. National Family Opinion found that 69 percent spent less than $1,000, 21 percent spent $1,000 to $2,000 and the rest more than $2,000. The most popular brands were Texas Instruments, Commodore and Radio Shack, followed by Apple, Atari and Timex/Sinclair.

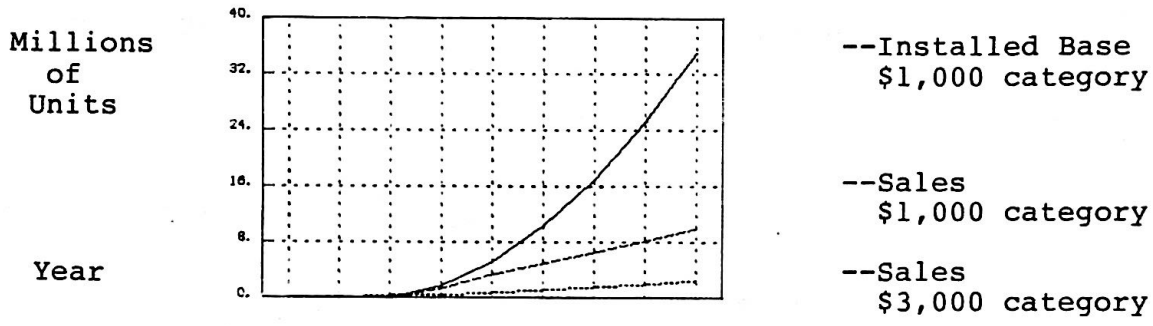
How happy are people with computers? Complaints are often heard that the machines are difficult to learn to use. But Gallup found that 68 percent said they were "very satisfied" and 24 percent "somewhat satisfied." Only 2 percent said they were "not too satisfied" and 1 percent said they were "not at all satisfied."

Personal Computers

Millions of Units

Sales and Installed Base

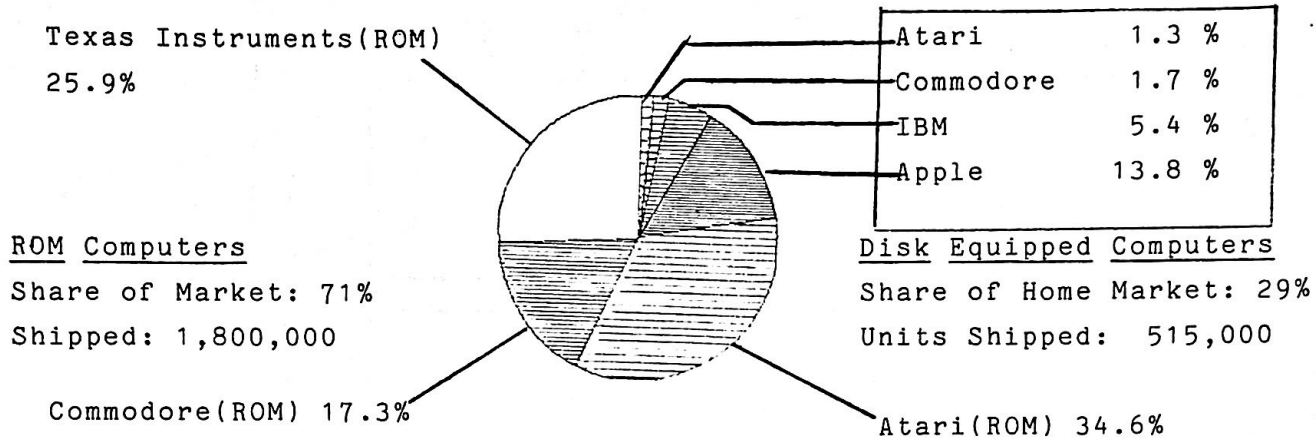
1979-1987



- The Home Computer market (under $1,000 machine) is the industry's fastest growing segment by volume.
- By 1985, over 19 million units will have been shipped. By 1988, over 35 million units will have been shipped.
- Each machine represents a household in the software market.

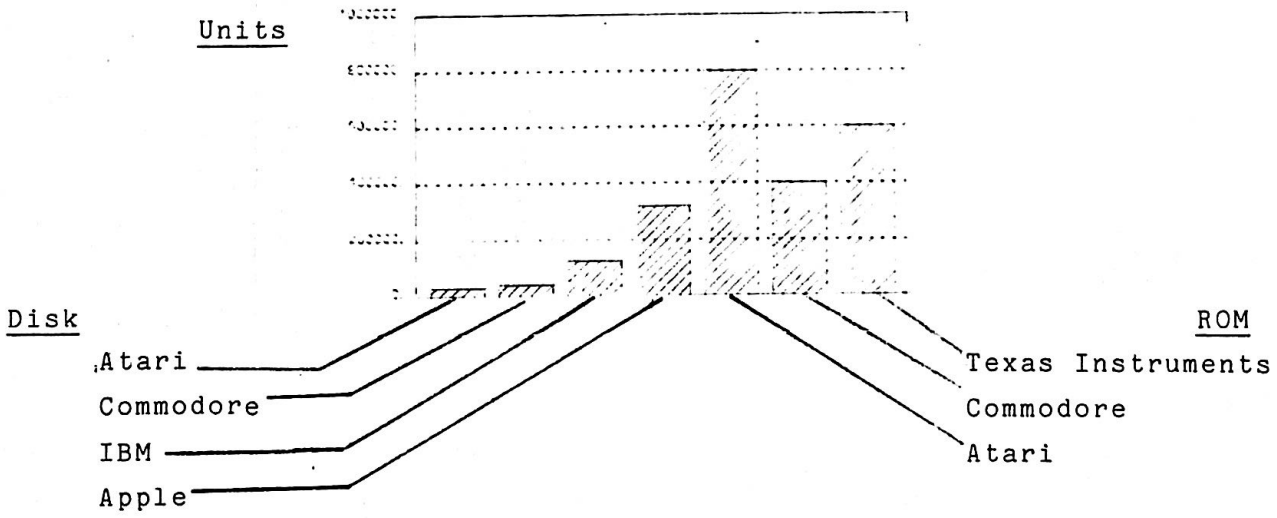
Source: Future Computing

EXHIBIT 4



Home Personal Computers
Installed Base (share)
1982
by Manufacturer and Machine Type

EXHIBIT 5a



Source:
Spinnaker Software
Goldman Sachs

Home Computers
Installed Base
1982

EXHIBIT 5b

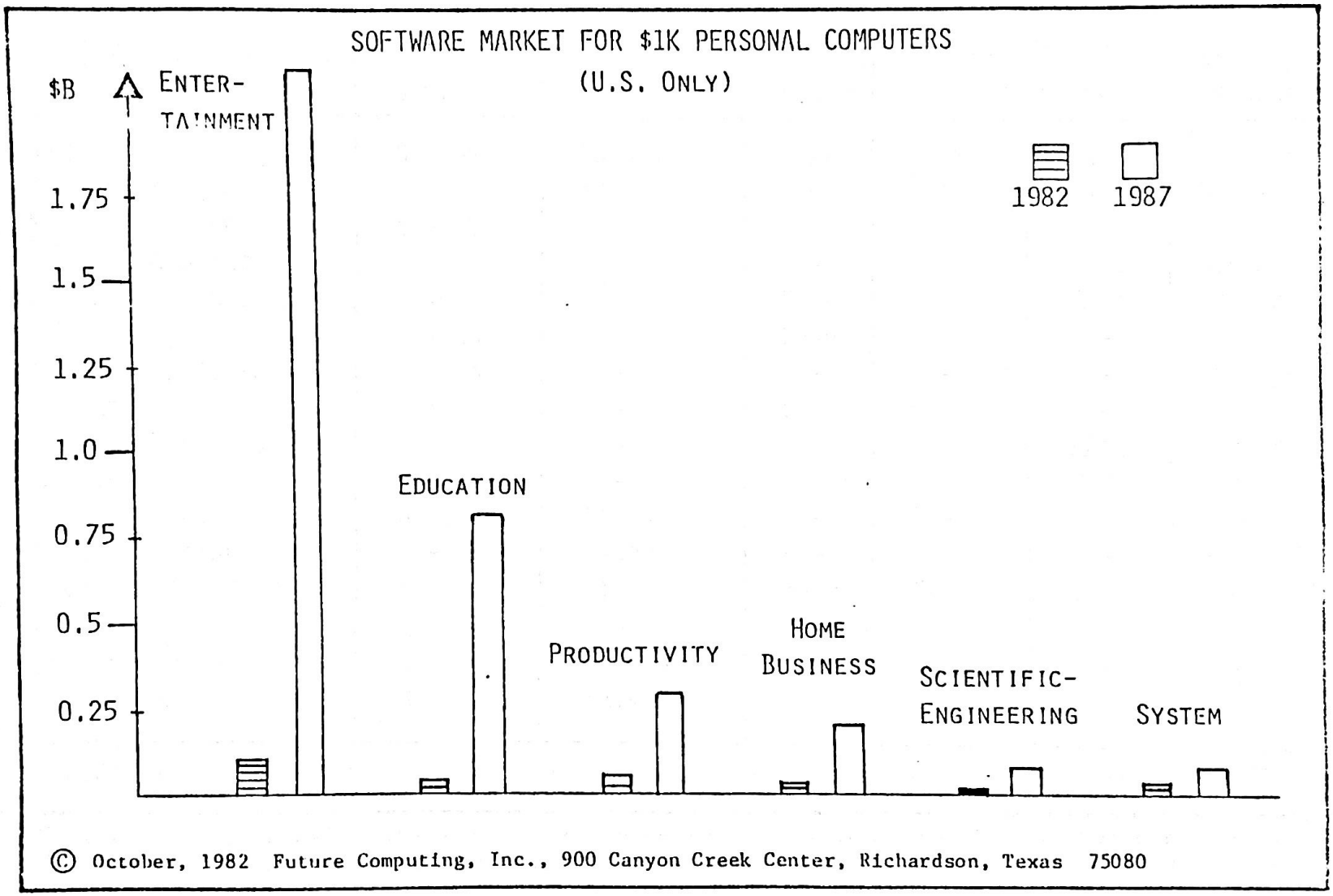

SOFTWARE MARKET FOR $1K PERSONAL COMPUTERS
(U.S. ONLY)
$B
ENTER-
TAINMENT
1982
1987
1.75
1.5
1.25
1.0
0.75
0.5
0.25
EDUCATION
PRODUCTIVITY
HOME
BUSINESS
SCIENTIFIC-
ENGINEERING
SYSTEM
© October, 1982 Future Computing, Inc., 900 Canyon Creek Center, Richardson, Texas 75080

EXHIBIT 6

SOFTWARE PUBLISHERS' PRODUCT SPECTRUM

Software Publishers	Productivity Software	Entertainment Software	Business Software	Education Software	Sci/Engr Software	System Software
VisiCorp	Strong	Fair	Weak	Weak	Fair	-
Microsoft	Fair	Fair	-	Weak	Fair	Strong
MicroPro International	Strong	-	-	-	-	-
Digital Research	-	-	-	-	Fair	Strong
Lifeboat Associates	Strong	-	Fair	-	Fair	Strong
IUS	Strong	-	Fair	-	-	-
Software Publishing	Strong	-	-	-	-	-
Peachtree	Fair	-	Strong	-	-	-
SofTech Microsystems	-	-	-	-	Fair	Strong
Sorcim	Strong	-	-	-	Fair	Fair
Sierra On-Line	Strong	Strong	-	-	-	Fair
Sirius Software	-	Strong	-	-	-	Fair
Brøderbund	-	Strong	Fair	Fair	-	-
BPI	-	-	Strong	-	-	-
Muse Software	Strong	Strong	-	Fair	-	-
MicroLab	Strong	Fair	Fair	Fair	-	-

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This product spectrum shows that education is the least entrenched software segment. Compared to other software categories, there are fewer competitors developing educational software, and none with a strong market presence.

EXHIBIT 7

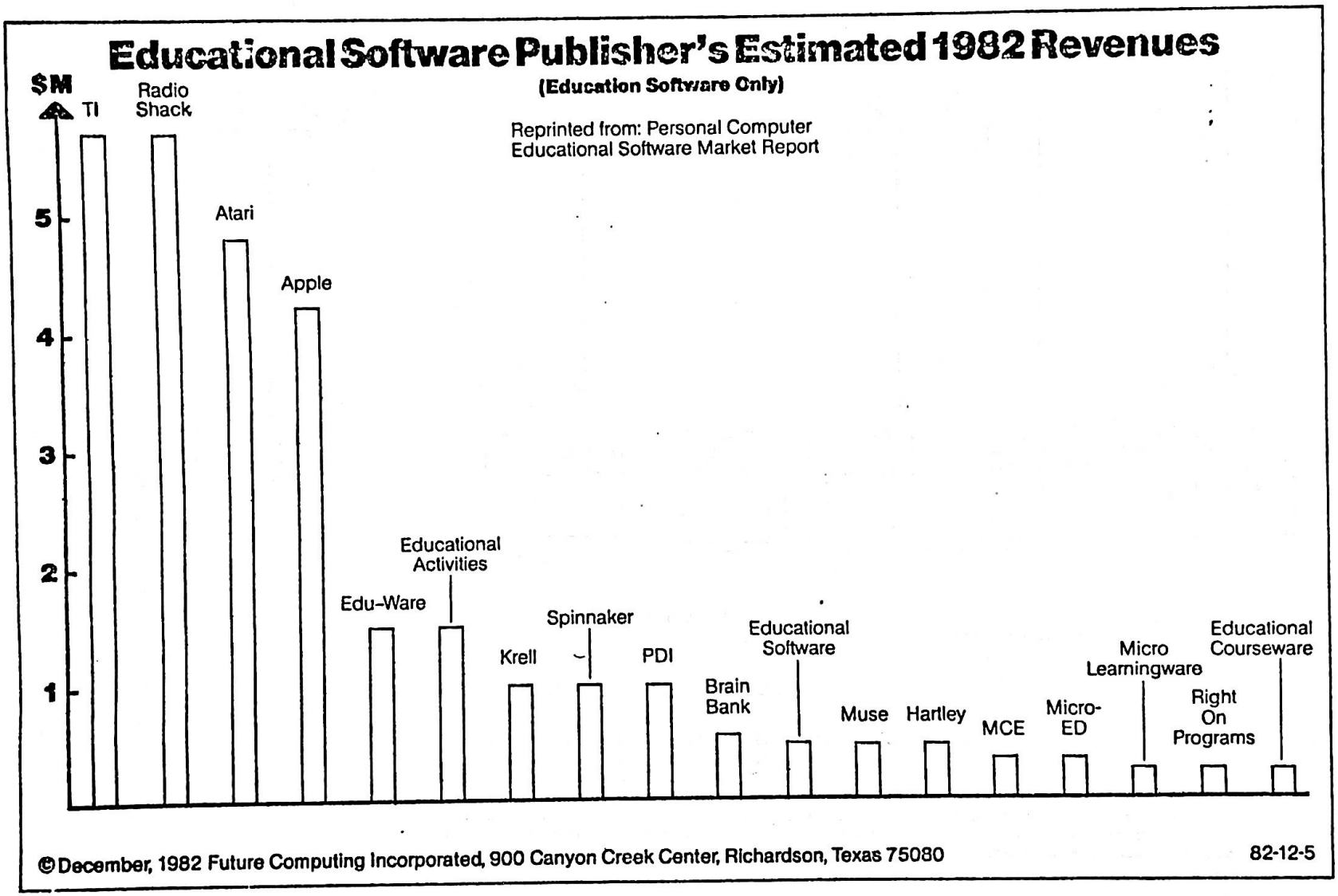
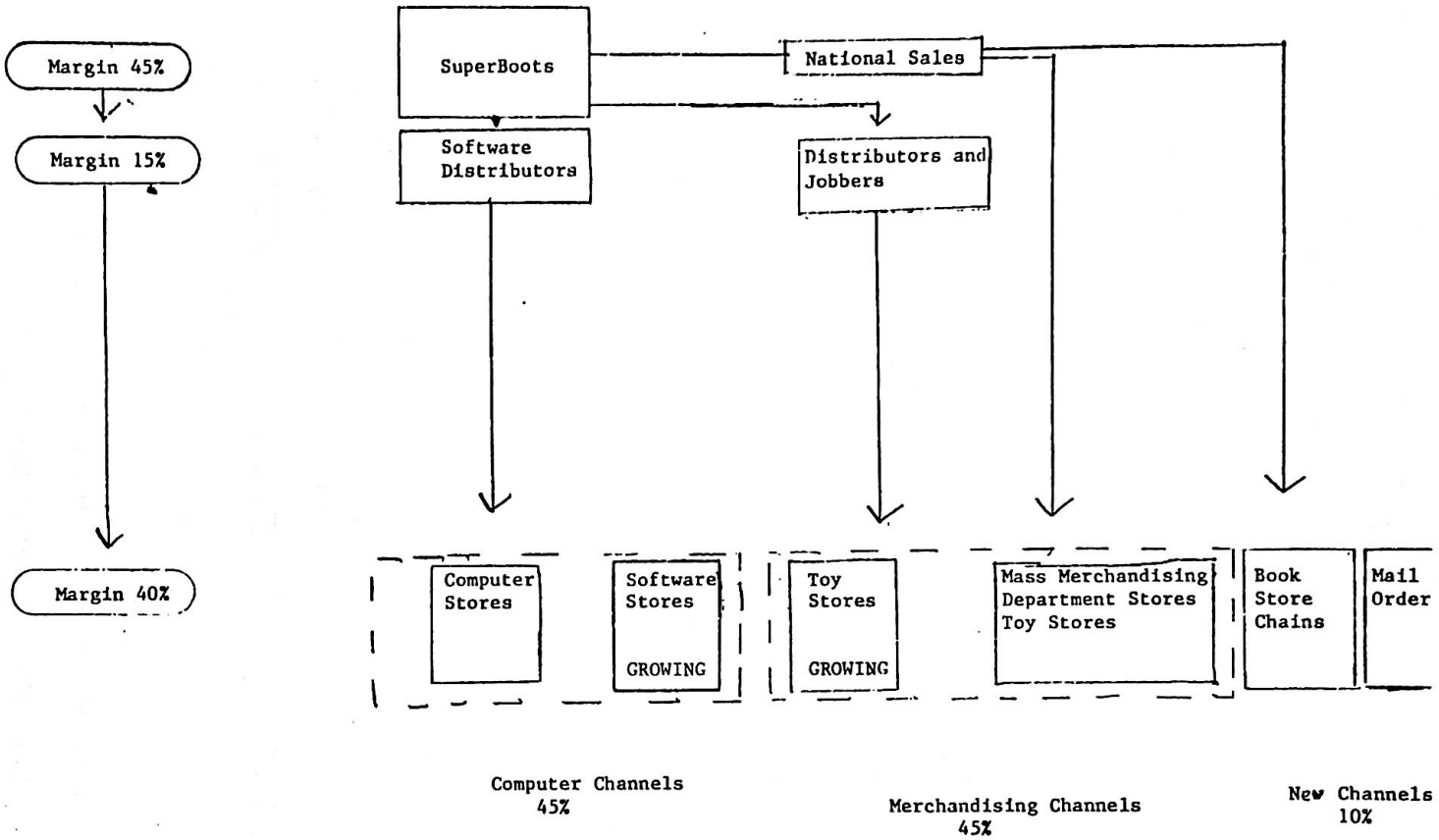

Educational Software Publisher's Estimated 1982 Revenues
(Education Software Only)
Reprinted from: Personal Computer
Educational Software Market Report
$M
5
4
3
2
1
TI
Radio Shack
Atari
Apple
Edu-Ware
Educational Activities
Krell
Spinnaker
PDI
Brain Bank
Educational Software
Muse
Hartley
MCE
Micro-ED
Micro Learningware
Right On Programs
Educational Courseware
©December, 1982 Future Computing Incorporated, 900 Canyon Creek Center, Richardson, Texas 75080
82-12-5

EXHIBIT 8



Overview of Software Distribution:

SuperBoots products will be distributed by software distributors, book distributors, and the national sales force. Standard margins are 40% to retailers, 15% to distributors, 45% to the publisher. Computer channels will account for 45% of sales, but within that category software specialty stores will eclipse computer stores. Mail order is not important to SuperBoots distribution plan. It is a relic of the early days of micro-computers when hobbiests had few alternative channels to turn to.

EXHIBIT 9

SUPERBOOTS'

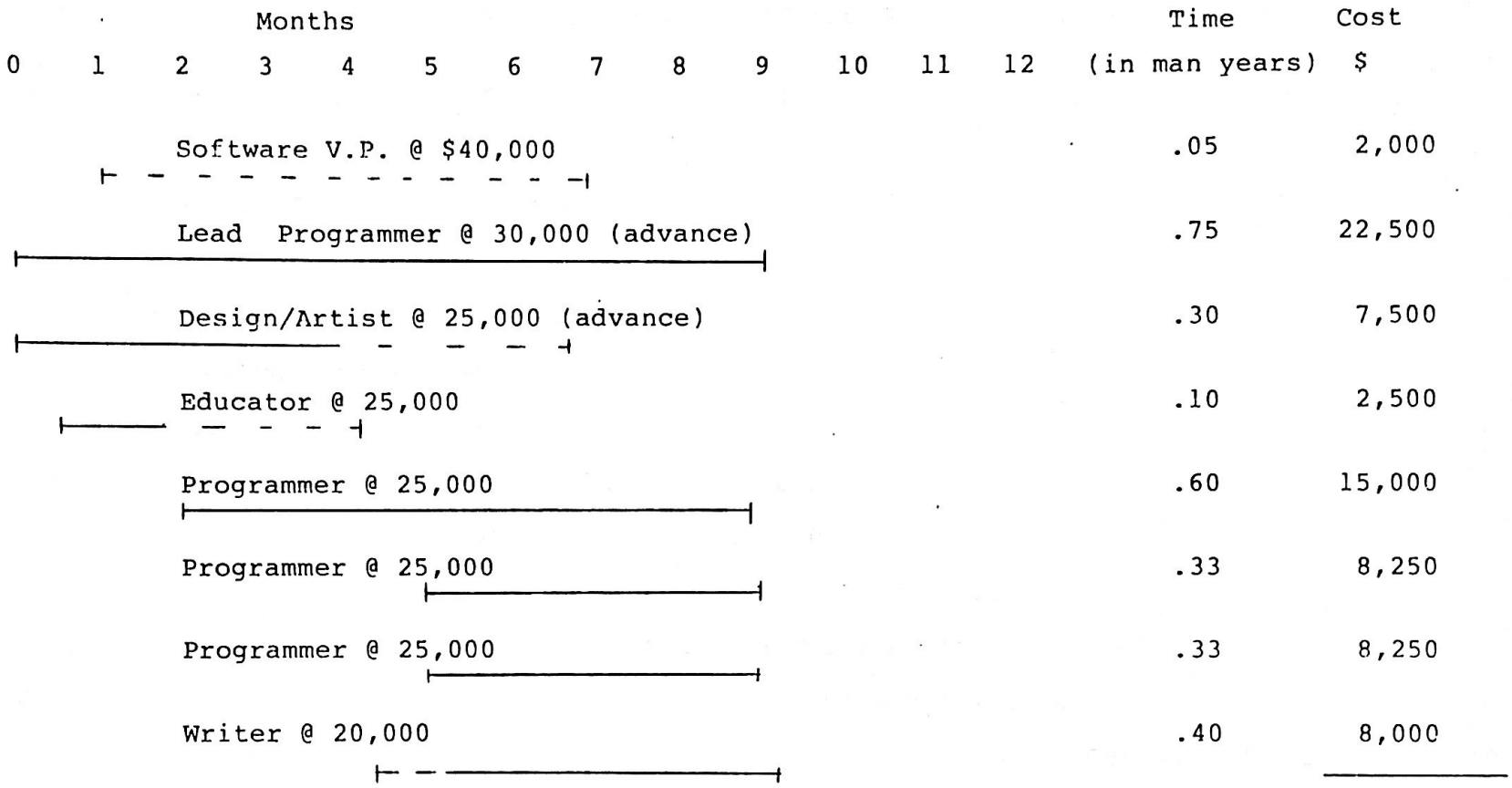
PRODUCT INTRODUCTIONS

Number of New Products Introduced Each Year

Year 1	Year 2	Year 3	Year 4
2	8	10	20

EXHIBIT 10

PRODUCT DEVELOPMENT SCHEDULE AND HUMAN RESOURCES
FOR TYPICAL PRODUCT


Months
0 1 2 3 4 5 6 7 8 9 10 11 12
Software V.P. @ $40,000
Lead Programmer @ 30,000 (advance)
Design/Artist @ 25,000 (advance)
Educator @ 25,000
Programmer @ 25,000
Programmer @ 25,000
Programmer @ 25,000
Writer @ 20,000

	Time (in man years)	Cost $
Software V.P. @ $40,000	.05	2,000
Lead Programmer @ 30,000 (advance)	.75	22,500
Design/Artist @ 25,000 (advance)	.30	7,500
Educator @ 25,000	.10	2,500
Programmer @ 25,000	.60	15,000
Programmer @ 25,000	.33	8,250
Programmer @ 25,000	.33	8,250
Writer @ 20,000	.40	8,000
Typical Project Cost: $84,500	Total	84,500

- $72,000 direct contract expenses
- $12,500 allocated from management and staff budgets

EXHIBIT 11

EXPECTED STAFFING (First Year and a Half)

Quarters	0	1	2	3	4	5	6
	President @ $45,000						
	V.P. of Marketing @ 40,000						
	National Sales Manager @ 30,000						
	V.P. Of Software Development @ 40,000						
	Software Manager @ 35,000						
	Secretary @ 15,000						
			V.P. Finance @ 40,000				
			Chief Editor @ 35,000				
				Software Manager @ 35,000			
				National Sales Manager @ 30,000			
					Accountant @ 20,000		
							Software Manager @ 35,000
							Marketing Manager @ 30,000
Yearly Cost	205		298	363	383		448

EXHIBIT 12

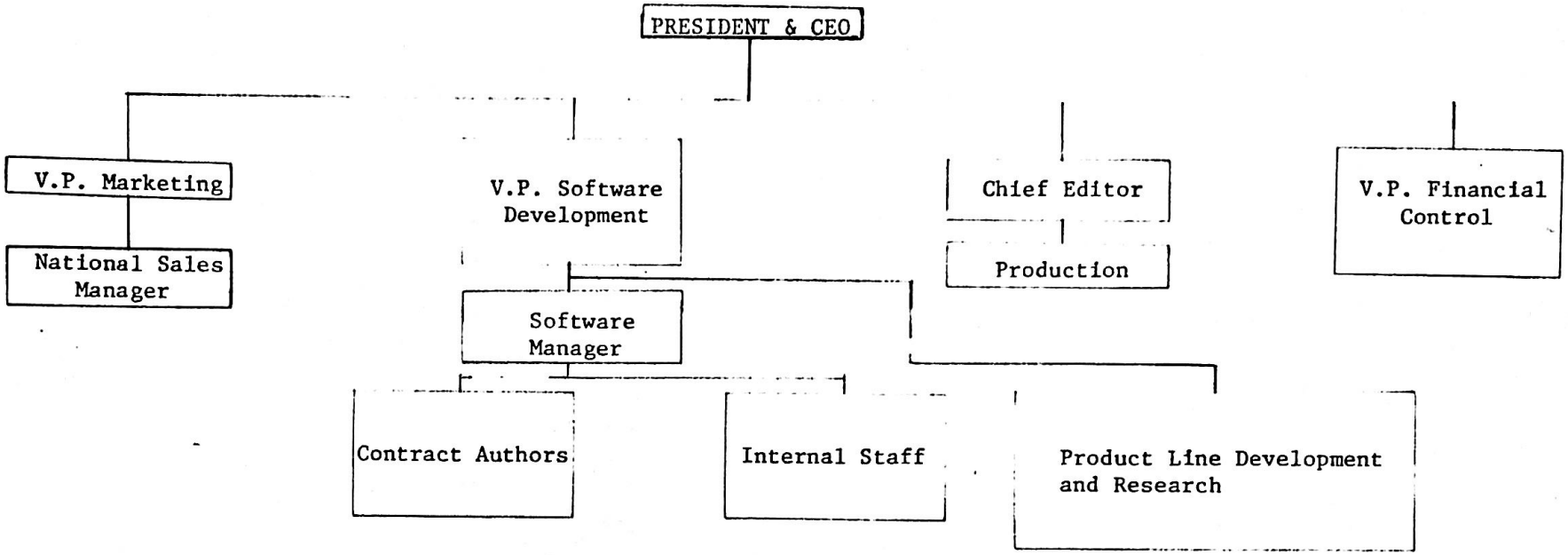

PRESIDENT & CEO
V.P. Marketing
National Sales Manager
V.P. Software Development
Software Manager
Contract Authors
Internal Staff
Chief Editor
Production
Product Line Development and Research
V.P. Financial Control

EXHIBIT 13

Pro forma Income and Cash Flow Statements

a) Introduction to Financial Statements
b) Sales level of 43,500/product
c) Sales level of 35,000/product
d) Sales level of 50,000/product

INTRODUCTION TO FINANCIAL STATEMENTS

The following assumptions were made in creating net income and cash flow statements.

Product Introductions

1) Software products introductions occur on the following schedule:

    2 products the first year
    5 products the second year
    10 products the third year
    20 products the fourth year

    This is probably a conservative assumption as other firms in the educational software business have been able to introduce 20 products within 2 years rather than 4 years.

    It should be noted that SuperBoots already has two products under development, Hidden Pictures, a pattern recognition game, and Music, a series of musical composition and creative activities. Thus, SuperBoots will be able to move rapidly to complete these two products once it is capitalized, and may well be able to move ahead of this schedule.

Revenues

2) The base case model assumes that SuperBoots products will sell an average of 43,500 units each. This is a conservative assumption. Spinnaker is already exceeding 50,000 units on all its products and these are only addressing the universe of home computers equipped with disks. Likewise, Atari's estimates of 50,000 units sold for PAINT is based on the universe of installed Atari computers which is only 30% of the home computer market. Once SuperBoots introduces ROM cartridge base products, it will likely exceed 50 thousand units.

3) Products conform to the following life cycles:

    30% of sales first quarter
    40% of sales second quarter
    20% of sales thrid quarter
    10% of sales fourth quarter

    These assumptions are based on research by Future Computing and on conversations with Spinnaker.

4) It is assumed the average SuperBoots product will retail for $40. Of this, 40% of the sales dollar will go to the retailer, 15% to the distributor, and 45% to SuperBoots. This means that SuperBoots will realize revenues of $18 per product.

Cost of Goods Sold

5) Cost of goods sold is $7 per unit. This includes printing of documentation, packaging, and production of either the floppy disc or the ROM cartridge.

Capital Equipment

6) Capital equipment is depreciated over 5 years, using straight line depreciation.

Royalties

7) Royalties paid to authors will be a maximum of 15% of SuperBoots revenue for that product. Authors will begin receiving royalty payments once a product's royalty exceeds the advance paid to the author. For this reason, the cash flow statement reflects an immediate expense when an author is paid a royalty, but this amount is not expensed in the income statement until the product begins generating revenue.

Administration

8) Administration costs are computed from the personnel schedule, Exhibit 12.

Overhead

9) Overhead costs include rent, use of PDP-11/70 computer and utilities.

Promotion

10) Promotional expenditures are initially budgeted at 360,000 for year one, and rise to a maximum of 15% of the firm's sales revenues.

Working Capital

11) Working capital is primarly used to finance accounts receivable. It is equal to 50% of the incremental increase in revenues from quarter to quarter.

PRO FORMA INCOME AND CASH FLOW STATEMENT

Sales level of 43,500/product

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	1	2	3	4	5	6
PRODUCT INTRODUCTIONS	0	0	0	2	1	0
TOTAL SALES '000 UNITS	0	0	0	26.10	49.27	57.35
REVENUE	0	0	0	469.8	871.5	672.4
COST OF GOODS	0	0	0	132.7	347.9	261.5
GROSS PROFIT	0	0	0	297.1	545.3	410.9
EXPENSES						
DEFRECIATION	5	5	5	5	5	5
ROYALTIES	0	0	0	70.47	133.8	100.8
ADMIN	51	51	75	91	95	112
OVERHEAD	3	3	4	4	5	5
PROMOTION	0	0	0	100	163.8	100.8
TOTAL EXPENSES	59	59	84	270.5	373.7	325.7
INCOME BEFORE TAXES	-59	-59	-84	16.63	171.6	97.16
TAXES	-23.60	-23.60	-33.60	6.652	68.64	34.97
NET INCOME	-35.40	-35.40	-50.40	9.978	103.0	52.30

CASH FLOW STATEMENT

USES						
WORKING CAPITAL	0	0	0	284.5	211.1	-110.0
DEVELOPMENT COSTS	54	54	90	90	108	144
CAPITAL EQUIPMENT	100	0	0	0	0	0
SOURCES						
NET INCOME	-35.40	-35.40	-50.40	9.978	103.0	52.30
ADD BACK						
DEFRECIATION	5	5	5	5	5	5
ROYALTIES DIF	0	0	0	70.47	133.8	100.8
CASH FLOW	-184.4	-84.40	-135.4	-259.5	-77.44	124.1
CUM CASH	-184.4	-268.8	-404.2	-663.7	-721.1	-597.0

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	7	8	9	10	11	12
PRODUCT INTRODUCTIONS	2	2	2	2	3	3
TOTAL SALES '000 UNITS	48.47	75.17	93.45	107.6	129.2	152.9
REVENUE	870.6	1353	1682	1936	2307	2695
COST OF GOODS	368.6	526.2	654.1	753.0	897.1	1091
GROSS PROFIT	532.1	826.8	1028	1184	1410	1714
EXPENSES						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES	130.6	202.9	252.3	290.4	346.0	404.3
ADMIN	128.8	148.1	170.2	193.9	227.3	259.1
OVERHEAD	5	6	6	6	6	6
PROMOTION	130.6	202.9	252.3	290.4	346.0	404.3
TOTAL EXPENSES	400.0	565.0	685.9	787.7	930.3	1118
INCOME BEFORE TAXES	132.1	261.8	342.0	396.3	481.4	602.7
TAXES	52.83	104.7	136.8	158.5	192.6	241.1
NET INCOME	79.24	157.1	205.2	237.8	288.8	361.6

CASH FLOW STATEMENT

USES						
WORKING CAPITAL	99.17	241.2	164.5	127.1	183.5	247.1
DEVELOPMENT COSTS	150	180	239	285	324	360
CAPITAL EQUIPMENT	0	0	0	0	0	0
SOURCES						
NET INCOME	79.24	157.1	205.2	237.8	288.8	361.6
ADD BACK						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES DIF	130.6	202.9	234	288	324	360
CASH FLOW	-114.3	-36.14	45.63	110.2	160.3	117.3
CUM CASH	-663.3	-699.4	-653.8	-539.6	-450.0	-312.7

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	13	14	15	16
PRODUCT INTRODUCTIONS	5	5	5	5
TOTAL SALES '000 UNITS	209.3	272.6	309.1	352.5
REVENUE	3758	4907	5546	5936
COST OF GOODS	1465	1908	2157	2309
GROSS PROFIT	2302	2999	3389	3627
EXPENSES				
DEPRECIATION	5	5	5	5
ROYALTIES	563.1	736.0	831.9	890.4
ADMIN	297.9	342.6	394.0	453.1
OVERHEAD	6	6	6	6
PROMOTION	563.1	736.0	831.9	890.4
TOTAL EXPENSES	1439	1826	2069	2244
INCOME BEFORE TAXES	863.2	1173	1320	1383
TAXES	345.3	469.2	528.1	553.1
NET INCOME	517.9	703.8	792.1	829.7

CASH FLOW STATEMENT

USES				
WORKING CAPITAL	831.1	569.7	317.9	219.8
DEVELOPMENT COSTS	270	150	75	0
CAPITAL EQUIPMENT	0	0	0	0
SOURCES				
NET INCOME	[illegible]	703.8	792.1	829.7
ADD BACK				
DEPRECIATION	5	5	5	5
ROYALTIES DIF	270	0	0	0
CASH FLOW	[illegible]	-40.87	307.8	624.2
CUM CASH	[illegible]	-311.7	76.09	700.3

PRO FORMA INCOME AND CASH FLOW STATEMENT

Sales level of 35,000/product

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	1	2	3	4	5	6
PRODUCT INTRODUCTIONS	0	0	0	2	1	0
TOTAL SALES '000 UNITS	0	0	0	21	39.89	30.05
REVENUE	0	0	0	378	717.9	540.9
COST OF GOODS	0	0	0	147	279.2	210.4
GROSS PROFIT	0	0	0	231	438.7	330.6
EXPENSES						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES	0	0	0	56.70	107.7	81.14
ADMIN	51	51	75	91	96	112
OVERHEAD	3	3	4	4	5	5
PROMOTION	0	0	0	100	107.7	81.14
TOTAL EXPENSES	59	59	84	256.7	321.4	284.3
INCOME BEFORE TAXES	-59	-59	-84	-25.70	117.4	46.29
TAXES	-23.60	-23.60	-33.60	-10.28	46.94	18.52
NET INCOME	-35.40	-35.40	-50.40	-15.42	70.42	27.78

CASH FLOW STATEMENT

USES						
WORKING CAPITAL	0	0	0	189	170.0	-89.50
DEVELOPMENT COSTS	54	54	90	90	108	144
CAPITAL EQUIPMENT	100	0	0	0	0	0
SOURCES						
NET INCOME	-35.40	-35.40	-50.40	-15.42	70.42	27.78
ADD BACK						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES DIF	0	0	0	56.70	107.7	81.14
CASH FLOW	-184.4	-84.40	-135.4	-232.7	-94.86	58.42
CUM CASH	-184.4	-268.8	-404.2	-636.9	-731.8	-673.4

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	7	8	9	10	11	12
PRODUCT INTRODUCTIONS	2	2	2	2	3	3
TOTAL SALES '000 UNITS	38.92	60.48	75.19	86.55	103.1	125.4
REVENUE	700.5	1089	1353	1558	1856	225[illegible]
COST OF GOODS	272.4	423.3	526.3	605.8	721.8	877.8
GROSS PROFIT	428.1	665.3	827.1	952.0	1134	1379
EXPENSES						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES	105.1	163.3	203.0	233.7	278.4	338.6
ADMIN	128.8	148.1	170.3	195.9	225.3	259.1
OVERHEAD	5	6	6	6	6	6
PROMOTION	105.1	163.3	203.0	233.7	278.4	338.6
TOTAL EXPENSES	349.0	485.7	587.3	674.2	793.1	947.2
INCOME BEFORE TAXES	79.14	179.6	239.7	277.8	341.2	432.2
TAXES	31.66	71.82	95.89	111.1	136.5	172.9
NET INCOME	47.48	107.7	143.8	166.7	204.7	259.3

CASH FLOW STATEMENT

USES						
WORKING CAPITAL	79.79	194.0	132.4	102.3	149.1	200.6
DEVELOPMENT COSTS	162	180	234	288	324	360
CAPITAL EQUIPMENT	0	0	0	0	0	0
SOURCES						
NET INCOME	47.48	107.7	143.8	166.7	204.7	259.3
ADD BACK						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES DIF	105.1	163.3	203.0	233.7	278.4	338.6
CASH FLOW	-84.23	-98.02	-14.55	15.09	13.02	41.79
CUM CASH	-757.6	-855.6	-870.2	-855.1	-840.0	-798.3

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	13	14	15	16
PRODUCT INTRODUCTIONS	5	5	5	5
TOTAL SALES '000 UNITS	168.4	219.3	247.9	267.5
REVENUE	3031	3948	4462	4815
COST OF GOODS	1179	1535	1735	1873
GROSS PROFIT	1853	2413	2727	2943
EXPENSES				
DEPRECIATION	5	5	5	5
ROYALTIES	454.7	592.2	669.3	722.3
ADMIN	297.9	342.6	394.0	453.1
OVERHEAD	6	6	6	6
PROMOTION	454.7	592.2	669.3	722.3
TOTAL EXPENSES	1218	1538	1744	1909
INCOME BEFORE TAXES	634.2	874.7	983.2	1034
TAXES	253.7	349.9	393.3	413.6
NET INCOME	380.5	524.8	589.9	620.4

CASH FLOW STATEMENT

USES				
WORKING CAPITAL	387.1	458.4	257.0	176.6
DEVELOPMENT COSTS	270	180	90	0
CAPITAL EQUIPMENT	0	0	0	0
SOURCES				
NET INCOME	380.5	524.8	589.9	620.4
ADD BACK				
DEPRECIATION	5	5	5	5
ROYALTIES DIF	454.7	180	0	0
CASH FLOW	183.1	71.47	247.9	448.8
CUM CASH	-814.6	-543.1	-295.2	153.6

PRO FORMA INCOME AND CASH FLOW STATEMENT

Sales level of 50,000/product

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	1	2	3	4	5	6
PRODUCT INTRODUCTIONS	0	0	0	2	1	0
TOTAL SALES '000 UNITS	0	0	0	30	56.98	42.93
REVENUE	0	0	0	540	1026	772.8
COST OF GOODS	0	0	0	210	398.9	300.5
GROSS PROFIT	0	0	0	330	626.8	472.3
EXPENSES						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES	0	0	0	81	153.8	115.9
ADMIN	51	51	75	91	96	112
OVERHEAD	3	3	4	4	5	5
PROMOTION	0	0	0	100	153.8	115.9
TOTAL EXPENSES	59	59	84	281	413.7	353.8
INCOME BEFORE TAXES	-59	-59	-84	49	213.1	118.4
TAXES	-23.60	-23.60	-33.60	19.60	85.24	47.37
NET INCOME	-35.40	-35.40	-50.40	29.40	127.9	71.05

CASH FLOW STATEMENT

USES						
WORKING CAPITAL	0	0	0	270	242.8	-126.4
DEVELOPMENT COSTS	54	54	90	90	108	144
CAPITAL EQUIPMENT	100	0	0	0	0	0
SOURCES						
NET INCOME	-35.40	-35.40	-50.40	29.40	127.9	71.05
ADD BACK						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES DIF	0	0	0	81	153.8	115.9
CASH FLOW	-184.4	-84.40	-135.4	-244.6	-64.12	174.4
CUM CASH	-184.4	-268.8	-404.2	-648.8	-712.9	-538.5

SUPERBOOTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	7	8	9	10	11	12
PRODUCT INTRODUCTIONS	2	2	2	2	3	3
TOTAL SALES '000 UNITS	55.60	86.40	107.4	123.6	147.3	179.1
REVENUE	1001	1555	1933	2226	2651	3225
COST OF GOODS	389.2	604.8	751.9	865.5	1031	1254
GROSS PROFIT	611.6	950.4	1182	1360	1620	1971
EXPENSES						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES	150.1	233.3	290.0	333.8	397.7	483.7
ADMIN	128.8	148.1	170.3	195.9	225.3	259.1
OVERHEAD	5	6	6	6	6	6
PROMOTION	150.1	233.3	290.0	333.8	397.7	483.7
TOTAL EXPENSES	439.0	625.7	761.3	874.5	1032	1237
INCOME BEFORE TAXES	172.5	324.7	420.2	485.5	588.6	733.2
TAXES	69.02	129.9	168.1	194.2	235.5	293.3
NET INCOME	103.5	194.8	252.1	291.3	353.2	439.9

CASH FLOW STATEMENT

USES						
WORKING CAPITAL	114.0	277.2	189.1	146.1	213.0	286.6
DEVELOPMENT COSTS	162	180	234	288	324	360
CAPITAL EQUIPMENT	0	0	0	0	0	0
SOURCES						
NET INCOME	103.5	194.8	252.1	291.3	353.2	439.9
ADD BACK						
DEPRECIATION	5	5	5	5	5	5
ROYALTIES DIF	150.1	180	234	288	324	0
CASH FLOW	-17.35	-77.38	87.99	150.2	145.2	-201.7
CUM CASH	-355.9	-633.3	-565.3	-415.0	-269.8	-471.5

SUPERROTS

INCOME STATEMENT
DOLLARS IN '000
QUARTERLY

	13	14	15	16
PRODUCT INTRODUCTIONS	5	5	5	5
TOTAL SALES '000 UNITS	240.6	313.3	354.1	382.2
REVENUE	4331	5640	6374	6879
COST OF GOODS	1684	2193	2479	2675
GROSS PROFIT	2646	3447	3895	4204
EXPENSES				
DEPRECIATION	5	5	5	5
ROYALTIES	649.6	846.0	956.2	1032
ADMIN	297.9	341.6	394.0	453.1
OVERHEAD	6	6	6	6
PROMOTION	649.6	846.0	956.2	1032
TOTAL EXPENSES	1608	2046	2317	2528
INCOME BEFORE TAXES	1038	1401	1578	1676
TAXES	415.4	560.4	631.3	670.4
NET INCOME	623.0	840.7	946.9	1006

CASH FLOW STATEMENT

USES				
WORKING CAPITAL	503.0	654.8	367.1	252.3
DEVELOPMENT COSTS	270	180	90	0
CAPITAL EQUIPMENT	0	0	0	0
SOURCES				
NET INCOME	623.0	840.7	946.9	1006
ADD BACK				
DEPRECIATION	5	5	5	5
ROYALTIES DIF	0	0	0	0
CASH FLOW	-194.9	10.88	494.8	758.3
CUM CASH	-666.5	-655.6	-160.8	597.5

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